# ALI-NVR5000P Series
# Embedded Network Video Recorder
# User Manual

Products: ALI-NVR5016P, ALI-NVR5032P

*ALI-NVR5000P Series Network Video Recorder*

PLEASE READ THIS MANUAL BEFORE USING YOUR SYSTEM, and always follow the instructions for safety and proper use. Save this manual for future reference.

ALI-NVR5016P_SM
4/23/14

WARNING
RISK OF ELECTRIC SHOCK
DO NOT OPEN
WARNING: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

**CAUTION**

*Do not expose this appliance to rain or moisture. Operate this device only in environments where the temperature or humidity is within the recommended range. Operation at extreme temperatures or in very high or low humidity levels may cause electric shock and shorten the life of the product.*

**CAUTION**

***FCC Caution:*** *To assure continued compliance, use only shielded interface cables when connecting to computer or peripheral devices. Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.*

**NOTE**

*This equipment has been tested and found to comply with the limits for a Class "A" digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications.*

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## Regulatory information

### FCC information

FCC compliance: This equipment has been tested and found to comply with the limits for a digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

### FCC conditions

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

1. This device may not cause harmful interference.
2. This device must accept any interference received, including interference that may cause undesired operation.

## Preventive and Cautionary Tips

Before connecting and operating your device, please be advised of the following tips:

- Ensure unit is installed in a well-ventilated, dust-free environment.
- Unit is designed for indoor use only.
- Keep all liquids away from the device.
- Ensure environmental conditions meet factory specifications.
- Ensure unit is properly secured to a rack or shelf. Major shocks or jolts to the unit as a result of dropping it may cause damage to the sensitive electronics within the unit.
- Use the device in conjunction with an UPS if possible.
- Power down the unit before connecting and disconnecting accessories and peripherals.
- A factory recommended HDD should be used for this device.
- Improper use or replacement of the battery may result in hazard of explosion. Replace with the same or equivalent type only. Dispose of used batteries according to the instructions provided by the battery manufacturer.

## Safety Instructions

**Read these instructions and keep them in a safe place for future reference.**

- Please refer all work related to the installation of this product to qualified service personnel or system installers.
- Do not operate the appliance beyond its specified temperature, humidity or power source ratings.
- Place the unit on a flat surface not prone to vibration or impact.
- Use the appliance at temperatures between 14 °F ~ 131 °F (-10 °C ~ +55 °C) and relative humidity below 90%. The input power source for this appliance is between 90 ~ 264 Vac, 47 ~ 63 Hz.

- Install the unit away from heat sources such as radiators, heat registers and stoves.
- Installation of the unit near consumer electronics devices, such as stereo receiver/amplifiers and televisions, is permitted as long as the air surrounding the terminal does not exceed the above mentioned temperature range.
- Handle hard disk drives with care.
  - It is possible to damage hard drives if they are moved while the NVR is powered on. To allow the hard drive to spin down and park its heads, wait at least 10 seconds after disconnecting power before moving the unit.
  - To avoid shock and vibration damage to the internal hard drive, do not move the unit while it is plugged in.
  - Protect hard disk drives from static electricity.
  - Do not stack hard disk drives or keep them upright.
  - Do not use an electric or magnetic screwdriver to install hard disk drives.
- Do not place the unit in an enclosed area where the cooling vents are blocked or impede the flow of air through the ventilation openings.
- Protect the power cord from being stepped on or pinched particularly at plugs and the points where they exit from the apparatus.
- Do not drop metallic parts through slots. This could permanently damage the appliance. Turn the power off immediately and contact qualified service personnel for service.
- Handle the appliance with care. Do not drop or shake, as this may damage the device.
- Do not expose the appliance to water or moisture, nor try to operate it in wet areas. Do not install the unit in an area where condensation occurs. Do not operate with wet hands. Take immediate action if the appliance becomes wet. Turn the power off and refer servicing to qualified service personnel. Moisture may damage the appliance and also cause electric shock.
- Do not use strong or abrasive detergents when cleaning the surfaces of this product. When dirt is hard to remove, use a mild detergent and wipe gently.
- Do not overload outlets and extension cords. Electric shock or fire may result.
- Save your system configuration.
- Distributing, copying, disassembling, reverse compiling, reverse engineering, and exporting, in violation of export laws, the software provided with this product is expressly prohibited.

# Table of Contents

**SECTION 1** **Systems Overview . . . . . 1**
1.1 NVR Controls, connectors and indicators . . . . . 3
1.1.1 Remote control . . . . . 7
1.1.2 Mouse control . . . . . 8
1.1.3 Soft keyboard . . . . . 9
**SECTION 2** **Installing the System . . . . . 10**
2.1 Getting Started: Unpacking the Equipment . . . . . 10
2.2 NVR installation general guidelines . . . . . 11
2.2.1 Installing an HDD in the NVR . . . . . 11
2.2.2 NVR Placement . . . . . 11
2.3 Connecting alarm devices to the NVR . . . . . 12
2.3.1 Wiring alarm inputs to the NVR . . . . . 12
2.3.2 Wiring alarm outputs to the NVR . . . . . 12
2.4 Install a monitor, mouse, power . . . . . 13
2.5 Connecting it together – initial system setup . . . . . 14
2.5.1 Using the Wizard for basic configuration setup . . . . . 14
2.6 Access the Menu system . . . . . 21
2.7 Customize camera configurations . . . . . 22
2.7.1 Camera OSD setup . . . . . 23
2.7.2 Camera Image setup . . . . . 23
2.7.3 Camera Motion detection setup . . . . . 24
2.7.4 Camera Privacy Mask setup . . . . . 27
2.7.5 Camera Video Tampering setup . . . . . 28
2.7.6 Camera Video Loss setup . . . . . 30
2.8 Adding cameras manually . . . . . 32
2.8.1 Editing camera options . . . . . 36
2.8.2 Configuring customized protocols . . . . . 36
2.9 Configuring HDD settings . . . . . 38
2.9.1 Checking HDD status . . . . . 38
2.9.2 Managing Network Storage . . . . . 39
2.9.3 Managing eSATA . . . . . 41
2.9.4 Configuring the HDD . . . . . 42
2.9.5 HDD Detect . . . . . 44

2.10 Configuring Exception Alarms....45
2.11 Setting sensor alarms....46
2.12 Setting alarm response actions....50
**SECTION 3 Startup, Shutdown, Reboot....55**
3.1 Starting Up, Shutting Down and Rebooting the DVR....55
3.1.1 Startup....55
3.1.2 Shutdown....55
3.1.3 Rebooting the DVR....56
**SECTION 4 Live View Interface....57**
4.1 Operations in Live view mode....57
4.1.1 Front panel operation on Live view....58
4.1.2 Using the mouse in Live view....59
4.1.3 Using an Auxiliary monitor....59
4.1.4 Live View Status icons....60
4.2 Quick Setting Toolbar....60
4.3 Live View pop-up menu....62
4.3.1 Live View settings....62
4.4 Channel-Zero Encoding....64
**SECTION 5 PTZ Controls....65**
5.1 Configuring PTZ settings....65
5.2 Setting PTZ presets, patrols and patterns....65
5.2.1 Customizing Presets....65
5.2.2 Calling Presets....66
5.2.3 Customizing Patrols....67
5.2.4 Calling Patrols....69
5.2.5 Customizing Patterns....70
5.2.6 Calling Patterns....71
5.3 PTZ Control Panel....71
**SECTION 6 Record, Playback and Video Backup....73**
6.1 Configuring record settings....74
6.1.1 Setting camera parameters....74
6.1.2 Configuring Record schedule....75
6.1.3 Configuring Capture schedule....79
6.1.4 Configuring Motion Detection Recording....79
6.1.5 Manual record....82

6.1.6 Configuring Holiday recording ..... 83
6.1.7 Configuring HDD Group for Recording ..... 85
6.1.8 Files Protection ..... 86
6.2 Playback ..... 87
6.2.1 Instant playback by channel ..... 87
6.2.2 Playing back video by channel ..... 88
6.2.3 Playing Back by Time ..... 91
6.2.4 Playback by Event Search ..... 92
6.2.5 Playback by Tag ..... 94
6.2.6 Smart Playback ..... 97
6.2.7 Playback using System logs ..... 99
6.2.8 Playing Back an external file ..... 100
6.2.9 Auxiliary Functions - Playback frame by frame ..... 103
6.2.10 Auxiliary Functions - Reverse Playback of Multi-channel ..... 103
6.2.11 Digital Zoom ..... 104
6.3 Backing up Record Files - Export ..... 105
6.3.1 Quick Export ..... 105
6.3.2 Export by video search ..... 108
6.3.3 Export by Event Search ..... 111
6.3.4 Exporting Video Clips during playback ..... 113
**SECTION 7 Managing User Accounts ..... 118**
7.1 Adding a user account ..... 118
7.2 Deleting a user account ..... 122
7.3 Editing a user account ..... 122
7.3.1 Edit admin user ..... 123
**SECTION 8 Network Settings ..... 125**
8.1 Configuring General Settings ..... 125
8.2 Configuring Advanced Settings ..... 126
8.2.1 Configuring DDNS ..... 126
8.2.2 Configuring NTP Server ..... 127
8.2.3 Configuring Remote Alarm Host ..... 128
8.2.4 Configuring Multicast ..... 129
8.2.5 Configuring RTSP ..... 130
8.2.6 Configuring Server and HTTP Ports ..... 130
8.2.7 Configuring Email ..... 131

8.2.8 Configuring UPnP™ ..... 133

**SECTION 9 System Maintenance ..... 135**

9.1 System Information ..... 135

9.2 Log Information ..... 135

9.2.1 Log Search. ..... 136

9.2.2 Log Export. ..... 137

9.3 Import / Export system configuration ..... 139

9.4 Upgrade Firmware ..... 142

9.5 Default ..... 143

9.6 Net Detect ..... 143

9.6.1 Checking Network Traffic ..... 143

9.6.2 Testing Network Delay and Packet Loss ..... 144

9.6.3 Exporting Network Packet ..... 145

9.6.4 Checking the network status ..... 146

9.6.5 Checking Network Statistics ..... 147

9.7 Hot Spare device backup ..... 148

9.7.1 Identifying the Hot Spare device ..... 148

9.7.2 Setting the Working device. ..... 149

9.7.3 Managing Hot Spare System ..... 150

**SECTION 10 Remote Access ..... 152**

10.1 Remote login ..... 152

10.2 Remote Live View screen ..... 155

10.3 Remote Playback screen ..... 157

10.4 Remote Log screen ..... 159

10.5 Remote Configuration screen ..... 160

**SECTION 11 Cleaning ..... 162**

**SECTION 12 Specifications ..... 163**

**APPENDIX A Glossary ..... 165**

**APPENDIX B FAQ ..... 166**

**APPENDIX C HDD Installation ..... 167**

C.1 NVR compatible HDDs ..... 167

C.2 HDD Installation ..... 167

**APPENDIX D NVR Compatible Cameras ..... 172**

# SECTION 1
# Systems Overview

Congratulations on purchasing your new Embedded NVR security system! Your system includes the following key features:

## General

- Each channel supports dual-stream video.
- Up to 16 network cameras (ALI-NVR5016P) or 32 network cameras (ALI-NVR32P) .
- NVR supports cameras from several manufacturers. Refer to "APPENDIX D NVR Compatible Cameras" on page 168.
- Independent configuration for each channel including resolution, frame rate, bit rate, image quality, etc.
- The quality of the input and output record is configurable.

## Local Monitoring

- Simultaneous HDMI, VGA and CVBS monitor output with resolutions up to 1920 x 1080.
- Multiple screen display in Live view is supported; the display sequence of channels is configurable.
- Configurable Live View display of groups and tours.
- Live view Quick setting menu.
- Motion detection, video tampering, video exception alert and video loss alert functions.
- Privacy mask.
- Zooming in by clicking the mouse and PTZ tracing by dragging mouse.

## HDD Management

- Supports up to 4 internal SATA hard disk drives, with a maximum of 4TB storage capacity in each drive.
- 8 network disks (8 NAS disks, or 7 NAS disks+1 IP SAN disk) can be connected.
- Supports HDD S.M.A.R.T. and bad sector detection.
- Supports eSATA disk for recording or backup
- Supports HDD group management.
- Supports HDD standby function.
- Supports HDD property: redundancy, read-only, read/write (R/W)
- Supports HDD quota management; a different capacity can be assigned to each camera channel.

## Recording and Playback

- Holiday recording schedule configuration.
- Normal and event video encoding parameters.
- Multiple recording types: manual, normal or motion
- Eight recording time periods with separated recording types.
- Supports pre-record and post-record for motion detection recording, and pre-record time for schedule and manual recording.
- Tag marker insertions, search and playback by tags.

- Lock/unlocking video files.
- Searching and playing back record files by channel number, recording type, start time, end time, etc.
- Motion analysis for the selected area in the video.
- Zoom in/out during playback.
- Forward/reverse, fast/slow playback.
- Forward/reverse multi-channel playback.
- Supports pause, skip forward and skip backward during playback.
- Up to 16-channel synchronous playback at 4CIF real time.
- Manual capture, continuous capture of video images and playback of captured pictures.

## Backup

- Export video data to USB or eSATA device.
- Export video clips during playback.
- Management and maintenance of backup devices.
- Either Normal or Hot Spare working mode is configurable to constitute an N+1 hot spare system.

## Alarm and Exception

- Configurable arming time of alarm input/output.
- Alarm for video loss, motion detection, tampering, abnormal signal, video input/output standard mismatch, illegal login, network disconnected, IP confliction, abnormal record/capture, HDD error, and HDD full, etc.
- Alarm triggers full screen monitoring, audio alarm, notifying surveillance center, sending email and alarm output.
- Automatic restore when system is abnormal.

## Other Local Functions

- Operable by front panel, mouse, remote control, and control keyboard.
- Three-level user management; admin user is allowed to create many operating accounts and define their operating permission, which includes the limit to access any channel.
- Operation, alarm, exceptions and log recording and searching.
- Manually triggering and clearing alarms.
- Import and export of device configuration information.

## Network Functions

- Self-adaptive 10M/100M/1000M network interface with multi-address, load balance, network fault tolerance, etc.
- 16 independent PoE network interfaces
- IPv6 supported
- Supports TCP/IP, PPPoE, DHCP, DNS, DDNS, NTP, SADP, SMTP, SNMP, NFS and iSCSI I protocols.
- Supports TCP, UDP and RTP for unicast.
- Auto/manual port mapping by UPnP™.

- Remote web browser access by HTTPS ensures high security.
- Remote reverse playback via RTSP.
- Support accessing by platform via ONVIF.
- Remote search, playback, download, locking and unlocking of the record files, and support downloading files broken transfer resume.
- Remote parameters setup; remote import/export of device parameters.
- Remote viewing of the device status, system logs and alarm status.
- Remote keyboard operation.
- Remote locking and unlocking of control panel and mouse.
- Remote HDD formatting and program upgrading.
- Remote system restart and shutdown.
- RS-232, RS-485 transparent channel transmission.
- Alarm and exception information can be sent to the remote host
- Remotely start/stop recording.
- Remotely start/stop alarm output.
- Remote PTZ control.
- Remote JPEG capture.
- Virtual host function is provided to get access and manage the IP camera directly.
- Two-way audio and voice broadcasting.
- Embedded WEB server.

## 1.1 NVR Controls, connectors and indicators

Your new security system is easy to use and easy to setup. This section includes the function and use of the components included with a NVR system. For installation instructions, refer to Section 2. Advanced control and configuration procedures are included in Sections 3 through 9.

### NVR Front Panel (ALI-NVR5016P and ALI-NVR5032P)

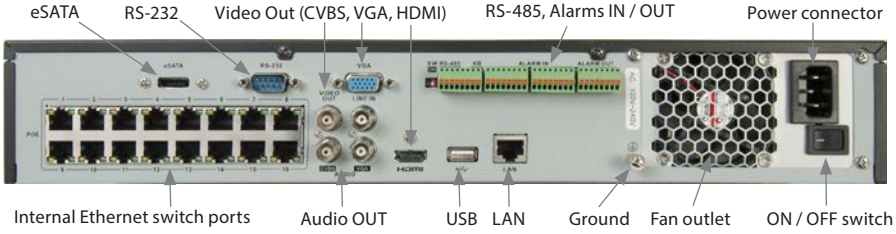
*Front panel*

| Name | | Function / Description |
|---|---|---|
| Status Indicators | POWER | Turns green when NVR is powered up. |
| | READY | The indicator is green when the device is running normally. |

| Name | | Function / Description |
|---|---|---|
| Status Indicators (cont.) | STATUS | The light is green when the IR remote control is enabled;<br>The light is red when the function of the composite keys (SHIFT) are used;<br>The light is out when none of the above condition is met. |
| | ALARM | The light is red when there is an alarm occurring. |
| | HDD | Blinks red when HDD is reading/writing. |
| | Tx/Rx | Blinks green when network connection is functioning normally. |
| Control Buttons | DIRECTION | In menu mode, the direction buttons are used to navigate between different fields and items and select setting parameters.<br>In playback mode, the Up and Down buttons are used to speed up and slow down record playing, and the Left and Right buttons are used to move the recording 30s forwards or backwards.<br>In the image setting interface, the up and down button can adjust the level bar of the image parameters.<br>In live view mode, these buttons can be used to switch channels. |
| | ENTER | The Enter button is used to confirm selection in menu mode; or used to check checkbox fields and ON/OFF switch.<br>In playback mode, it can be used to play or pause the video.<br>In single-frame play mode, pressing the Enter button will play the video by a single frame.<br>In auto sequence view mode, the buttons can be used to pause or resume auto sequence. |
| Composite Keys | SHIFT | Switch between the numeric or letter input and functions of the composite keys. (Input letter or numbers when the light is out; Realize functions when the light is red.) |
| | 1/MENU | Enter numeral "1";<br>Access the main menu interface. |
| | 2/ABC/F1 | Enter numeral "2";<br>Enter letters "ABC";<br>The F1 button when used in a list field will select all items in the list. |
| | 3/DEF/F2 | Enter numeral "3";<br>Enter letters "DEF";<br>The F2 button is used to change the tab pages.<br>In PTZ control mode, it zooms in the image. |
| Composite Keys (cont.) | 4/GHI/ESC | Enter numeral "4";<br>Enter letters "GHI";<br>Exit and back to the previous menu. |

| Name | | Function / Description |
|---|---|---|
| Composite Keys (cont.) | 5/JKL/EDIT | Enter numeral "5";<br>Enter letters "JKL";<br>Delete characters before cursor;<br>Check the checkbox and select the ON/OFF switch;<br>Start/stop record clipping in playback. |
| | 6/MNO/PLAY | Enter numeral "6";<br>Enter letters "MNO";<br>Playback, for direct access to playback interface. |
| | 7/PQRS/REC | Enter numeral "7";<br>Enter letters "PQRS";<br>Open the manual record interface. |
| | 8/TUV/PTZ | Enter numeral "8";<br>Enter letters "TUV";<br>Access PTZ control interface. |
| | 9/WXYZ/ PREV | Enter numeral "9";<br>Enter letters "WXYZ";<br>Multi-channel display in live view. |
| | 0/A | Enter numeral "0", or letter "A"<br>Shift the input methods in the editing text field. (Upper and lowercase, alphabet, symbols or numeric input).<br>Press the button twice to switch the main and auxiliary output. |
| JOG SHUTTLE Control | | Move the active selection in a menu. It will move the selection up and down.<br>In Live View mode, it can be used to cycle through different channels.<br>In the Playback mode, it can be used to jump 30s forward/backward in video files.<br>In PTZ control mode, it can control the movement of the PTZ camera. |
| POWER ON/OFF | | Power on/off switch. |
| USB Interfaces | | Universal Serial Bus (USB) ports for additional USB devices such as a mouse or Hard Disk Drive (HDD). |

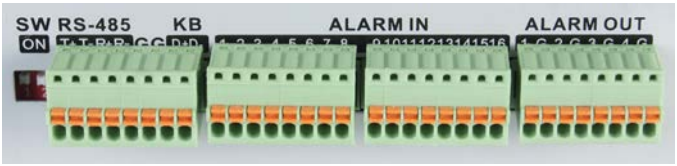
## NVR Backpanel (ALI-NVR5016P and ALI-NVR5032P).




| Item | Description |
|---|---|
| eSATA | Connects external SATA HDD, CD/DVD-RW. |
| RS-232 Interface | DB9 (male) connector for RS-232 devices |

| Item | Description |
|---|---|
| VIDEO OUT<br>(CVBS, VGA, HDMI) | CVBS - BNC connector for video output<br>VGA - DB15 connector for VGA compatible monitor. Supports 1920 × 1080p @ 60 Hz, 1600 × 1200 @ 60 Hz, 1280 × 1024 @ 60 Hz, 1280 × 720 @ 60 Hz/, 1024 × 768 @ 60 Hz<br>HDMI - HDMI connector for an HDMI compatible monitor. Supports 1920 × 1080p @ 60 Hz, 1600 × 1200 @ 60 Hz, 1280 × 1024 @ 60 Hz, 1280 × 720 @ 60 Hz/, 1024 × 768 @ 60 Hz |
| LINE IN | BNC connector for audio input. |
| RS-485, ALARMS IN/OUT | See below, next topic |
| AC 100V ~ 240V | AC 100V ~ 240V power supply. |
| ON / OFF Switch | Switch for powering the device on or off. |
| GROUND | Terminal for ground. Connect to earth ground before powering on the NVR. |
| LAN Interface | 10/100/1000BASE-T Ethernet network interface |
| USB interface | Universal Serial Bus (USB) ports for additional devices such as USB mouse and USB Hard Disk Drive (HDD). |
| AUDIO OUT | CVBS AUDIO OUT - BNC connector for audio output. This connector is synchronized with CVBS video output<br>VGA AUDIO OUT - BNC connector for audio output. This connector is synchronized with VGA video output |
| Internal Ethernet switch ports | 16 ports for IP cameras. These ports provide Power over Ethernet (PoE) to the cameras. |

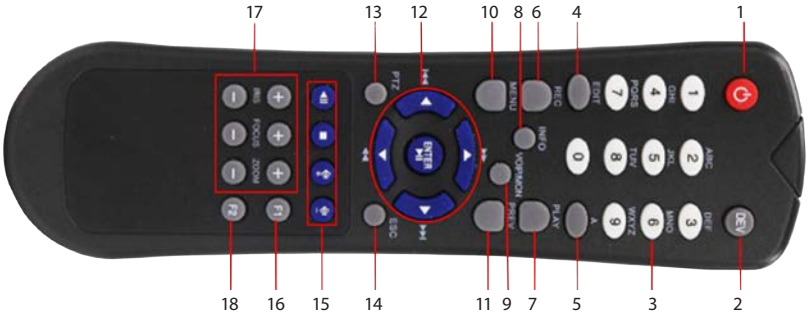
## RS-485, ALARMS IN/OUT




| Item | Description |
|---|---|
| SW ON | RS-485 termination switch:<br>Up position is not terminated.<br>Down position is terminated with 120 Ω resister. |
| RS-485 (T+, T-, R+. R-) | T+ and T- pins connect to R+ and R- pins of PTZ receiver respectively. |
| KB | Controller port:<br>D+, D- pin connects to Ta, Tb pin of controller.<br>For cascading devices, the first NVR's D+, D- pin should be connected with the D+, D- pin of the next NVR |
| ALARM IN (1 through 16) | Alarm inputs 1 - 16. Alarm input is tied to ground through the alarm sensor. See "2.3.1 Wiring alarm inputs to the NVR" on page 12 for more information. |
| ALARM OUT<br>(1-G through 4-G) | Alarm outputs 1 - 4 with ground terminations. See "2.3.2 Wiring alarm outputs to the NVR" on page 12 for more information. |

## 1.1.1 Remote control

The enter key on the remote control or the front panel has the same function as a mouse left click. The IR Range of the remote control is 10 meters. The buttons on the remote control correspond with the buttons on the front panel.




| Item | Name | Function |
|---|---|---|
| 1 | POWER | Power on/off the device. |
| 2 | DEV | Enables/Disables Remote Control. |
| 3 | Alphanumeric Buttons | Use for entering numerical data |
| 4 | EDIT Button | Delete characters before cursor, check the checkbox and select the ON/OFF switch, start/stop record clipping in playback |
| 5 | A Button | Adjust focus in the PTZ Control menu, also used to switch between input methods (upper and lowercase alphabet, symbols and numeric input). |
| 6 | REC Button | Open the manual record interface |
| 7 | PLAY Button | Playback, for direct access to playback interface. |
| 8 | INFO Button | Reserved. |
| 9 | VOIP/MON button | Switch between main and spot output. In PTZ Control mode, it is used to zoom out the image. |
| 10 | MENU button | Press the button will help you return to the Main menu (after successful login).<br>Press and hold the button for 5 seconds to turn off audible key beep.<br>In PTZ Control mode, the MENU/WIPER button will start wiper (if applicable). |
| 11 | PREV button | Switch between single screen and multi-screen mode.<br>In PTZ Control mode, it is used to adjust the focus in conjunction with the A/FOCUS+ button. |
| 12 | DIRECTION/ENTER buttons | DIRECTION: These buttons are used to navigate between different fields and items in menus.<br>In the Playback mode, the Up and Down buttons are used to speed up and slow down recorded video. The Left and Right button select the next and previous record files.<br>In Live View mode, these buttons can be used to cycle through channels.<br>In PTZ control mode, they can control the movement of the PTZ camera.<br>ENTER: The ENTER button is used to confirm selection in any of the menu modes.<br>It can also be used to tick checkbox fields.<br>In Playback mode, it can be used to play or pause the video.<br>In single-frame Playback mode, pressing the button will advance the video by a single frame.<br>In Auto-switch mode, it can be used to stop /start auto switch. |

| Item | Name | Function |
|---|---|---|
| 13 | PTZ button | Enter the PTZ Control mode (if applicable).<br>In the PTZ Control mode, it is used to adjust the iris of the PTZ camera. |
| 14 | ESC button | Return to the previous menu.<br>Press for Arming/disarming the device in Live View mode. |
| 15 | RESERVED | Reserved for future usage. |
| 16 | F1 button | Select all items on the list when used in a list field.<br>In PTZ Control mode, it will turn on/off PTZ light (if applicable).<br>In Playback mode, it is used to switch between play and reverse play. |
| 17 | PTZ Control buttons | Buttons to adjust the iris, focus and zoom of a PTZ camera. |
| 18 | F2 button | Cycle through tab pages.<br>In synchronous playback mode, use to switch between channels. |

## 1.1.2 Mouse control

A standard 3-button (left/right/scroll-wheel) USB mouse can also be used with this NVR. To use a USB mouse:

1. Plug USB mouse into the either a front panel or backpanel USB connector of the NVR.

2. The mouse will be automatically detected. If the mouse is not detected, the mouse may not be compatible with the NVR. Please refer to the recommended device list from your provider.

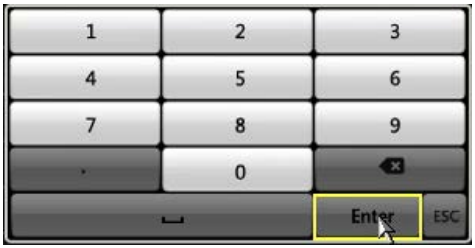
The operation of the mouse:

| Action | Effect |
|---|---|
| Right click | **Live view**: Show menu.<br>**Menu**: Exit current menu to upper level menu. |
| Left click | **Single click**: Live view: Select channel and show the quick set menu.<br>**Menu**: Select and enter. |
| | **Double click**: Live view: Switch between single-screen and multi-screen. |
| | **Click and drag**: PTZ control: pan, tilt and zoom.<br>Tamper-proof, privacy mask and motion detection: Select target area.<br>Digital zoom-in: Drag and select target area.<br>**Live view**: Drag channel/time bar |
| Scroll wheel | **Scroll up**: Live view: Previous screen.<br>**Menu**: Previous item. |
| | **Scroll down**: Live view: Next screen.<br>**Menu**: Next item. |

## 1.1.3 Soft keyboard

One of two on-screen keyboards appears when you click in a field that accepts a entry, such as a password or name or a numerical value. The QWERTY keyboard, for alphanumeric entries, is shown in the following picture. Some control keys toggle their function when they are clicked. A numerical keyboard, shown beneath, appears for numerical entries such as an IP address.

*Soft keyboard - alphanumeric*




*Soft keyboard - numeric*

# SECTION 2
# Installing the System

## 2.1 Getting Started: Unpacking the Equipment

### What's in the box

Your system includes:

- ALI-NVR5000P series NVR
- Remote Control
- USB mouse
- 6 foot Ethernet cable
- 6 foot HDMI cable
- Power cable for NVR
- Interface cables for a 2nd internal hard disk drive

Remove the equipment from its packaging and place it on a flat, clean surface. Inspect each item. If any visible damage is present, contact your supplier for a replacement. Verify that your order is complete.

### What you need

Although each security system installation is different, most require the following items not included with your system components:

- VGA or HDMI compatible computer monitor
- IP cameras and cables compatible with the NVR
- Tools to install the cameras and route power and video cables
- Fasteners to attach the cameras to the mounting surfaces
- A display device to connect to the NVR. The NVR will connect directly to a VGA video monitor or an HDMI monitor (HDMI cable is provided). The display device is usually needed only for system setup. It can be disconnected when the NVR is networked for access across a LAN or Internet.
- Uninterruptible power supply (UPS). This device is used to ensure system stability during voltage surges, sags, and outages. If a UPS is not available, a power strip with strong surge protection is highly recommended.

## 2.2 NVR installation general guidelines

### 2.2.1 Installing an HDD in the NVR

If you purchased your NVR without an internal HDD, you must install one for the NVR to function properly. Follow the procedure In "APPENDIX C HDD Installation" on page 122. If your HDD has an HDD, skip this procedure and continue installing the system with step "2.2.2 NVR Placement" on page 11.

### 2.2.2 NVR Placement

Your monitoring and recording equipment is the core device for constant surveillance and the reliable capture of video evidence. Observint Technologies strongly suggest that it be installed in a secure location with access limited to authorized personnel.

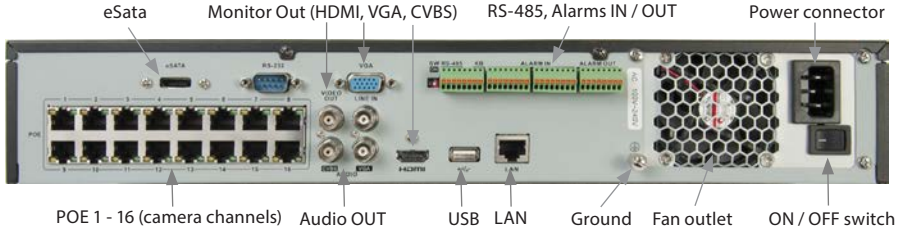
NVRs and monitors generate heat and should be placed in a clean and well ventilated area. A high temperature environment will reduce the life span and reliability of the equipment. Additionally, the NVR is not weatherproof, so avoid exposure to liquids and excessive dust. Do not place objects along the sides or behind the NVR that will block airflow through the unit.

#### Uninterruptible power supplies

It is strongly suggested that power to the system be routed through an uninterruptible power supply (UPS). These devices will keep your security system running through most power outages, in addition to providing excellent surge and sag protection. The UPS should support the NVR and all cameras to ensure normal operation during abnormal power conditions.

#### Proximity to other cameras and the local LAN

Your NVR connect to other devices through Ethernet networks. The NVR contains two network interfaces: one to a local area network (LAN) through the LAN connector on the back panel, and the other directly to IP cameras plugged into the POE 1 - 16 connectors.




The IP cameras you monitor with your NVR can be connected to either the Ethernet connectors on the back panel or the local LAN. However, the number of cameras the NVR monitors on the LAN plus the number of those it monitors through the camera channel connectors on the back panel cannot exceed the channel capacity of your NVR.

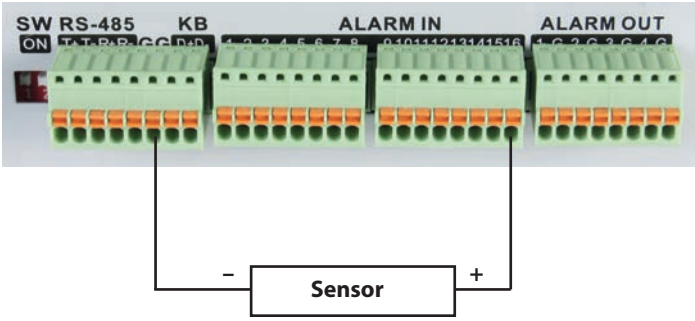
If you are using Cat 5e or Cat 6 copper (Ethernet) cable to connect your cameras to the NVR, or other cameras to the LAN, the cable distance from the NVR (or switch on the LAN) should not exceed 330 feet (100 meters). If a longer cable run is required, the use of an active hardware device such as a repeater or switch is necessary.

Place the NVR in a location that is secure, well ventilated and clean. The NVR should be positioned such that the back panel connectors are accessible and the ventilation holes on the sides and top and the fan outlet on the back are not blocked.

## 2.3 Connecting alarm devices to the NVR

### 2.3.1 Wiring alarm inputs to the NVR

You can wire up to 16 alarm inputs to the NVR. Alarm input wiring connects to the RS-485, Alarm IN/OUT connector blocks on the back of the NVR.




*Typical ALARM IN wiring*

### 2.3.2 Wiring alarm outputs to the NVR

The NVR provides 4 alarm output terminations. These terminations for each output are on the ALARM OUT connector block on the back of the NVR , and are labeled 1 - G, 2 - G, 3 - G, 4 - G (G = ground termination).

There are 4 jumpers (JP1, JP2, JP3, and JP4) inside the chassis on the alarm termination PC board, associated with ALARM OUT pins 1, 2, 3 and 4 respectively. Initially, these jumpers are in place. If connecting an alarm output to a DC loaded alarm out circuit, the jumper must be in place. If connecting the alarm output to an AC loaded alarm, the corresponding jumper must be removed. Example: If you connect an AC load to the alarm output 3 of the NVR, then you must remove the JP 3.

To remove a jumper for AC load alarm circuits:

1. Disconnect all cabling from the NVR.

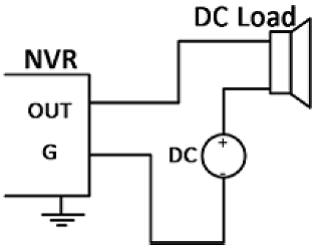
2. Remove the NVR top cover. See "APPENDIX C HDD Installation" on page 167 for instructions.

3. Locate the jumper associated with the alarm output you are using for an AC load alarm, then remove it. Save the jumper for use later, if needed.

4. Reinstall the NVR top cover.

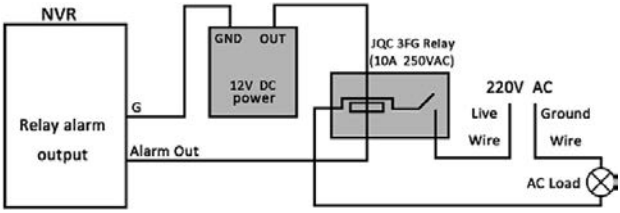
### DC load alarm output circuits

DC loads must operate within the limitation of 12V/1A. To connect to a DC alarm output, use the following diagram:




### AC load alarm output circuits

To connect an AC load to an alarm output, a jumper, associated with the output on the alarm termination PC board, (within the chassis), must be removed. These jumpers shunt pin pairs J1, J2, J3, and J4 for alarm outputs 1, 2, 3, 4 respectively. Use an external relay for safety.




## 2.4 Install a monitor, mouse, power

For the following steps, refer to the back panel photo above for the location of connectors.

1. Install and setup your monitor in accordance with the instructions provided with the monitor. Do not power it on at this time.

2. Cable the HDMI or VGA connector to your monitor's VGA or HDMI input. The HDMI interface provides the best performance.

3. Plug the mouse into the USB connector on the front or back of the NVR.

4. If you plan to access your NVR remotely, or configure your NVR to transmit alerts, email, etc. to external servers, plug a drop cable from your local area network (LAN) into the RJ45 LAN connector on the back of the NVR.

5. Connect the power cord to the power connector on the back panel of the NVR, and then into a UPS (preferred) or surge protector.

**NOTE** *Do not power on the NVR at this time.*

## 2.5 Connecting it together – initial system setup

1. Plug the LAN cables from the cameras into the POE RJ45 connectors on the back of the NVR.

   If other cameras to be monitored by the NVR will network to it through the LAN, plug their Ethernet cables into a switch (router) on the LAN and power on those cameras. (Power to other cameras on the LAN may be provided through a PoE switch if the camera is PoE capable, or through a separate cable and power adapter).

2. Power on the NVR using the power on / off (I / O) switch on the back panel.

3. Power on the monitor.

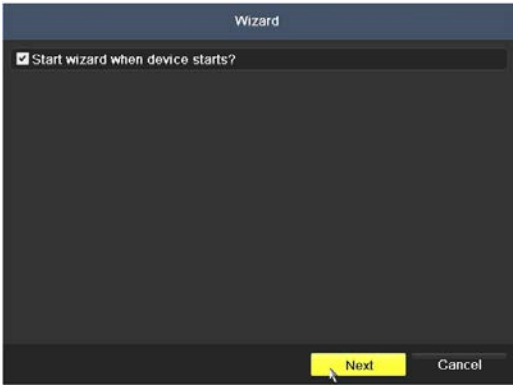
**NOTE** *Some monitors have multiple inputs such including VGA ,HDMI, BNC, etc. If you are using this kind of monitor, configure your monitor to display the input connected to your NVR (HDMI or VGA).*

### 2.5.1 Using the Wizard for basic configuration setup

1. Power on the NVR. Normally, an Alibi logo splash screen appears within 2 minutes. A secondary flash screen will appear showing the status of the HDDs installed in the NVR.

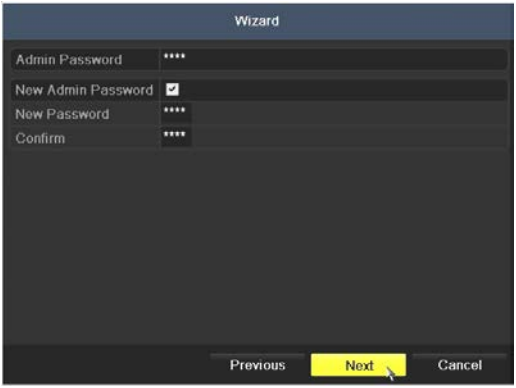
2. The Setup Wizard can assist you in making important configuration settings in DVR. Click **Next** button on the Wizard window to open the **Login** window.

**NOTE** *The configuration settings presented in the setup Wizard can also be made and changed using the **Menu** system. See Chapters 5 - 7 for more information.*

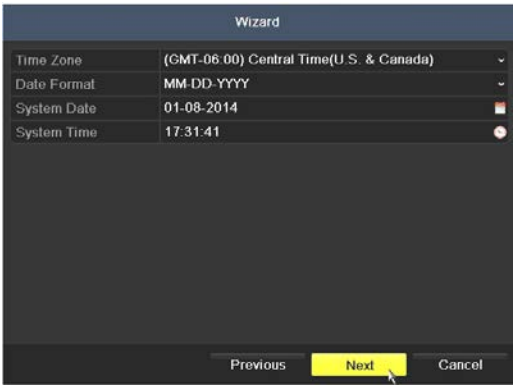



3. Enter the admin password in the appropriate field. To do that, click inside the **Admin Password** field to open the virtual keyboard. Click the appropriate keys (icons) to enter the password, then click the **Enter** icon. The default **admin** password is **1111**.

Observint strongly recommends that you change the default admin user password to improve the security of your surveillance system. To change the admin password, check the **New Admin Password** box, then enter the new password in the **New Password** and **Confirm** fields.

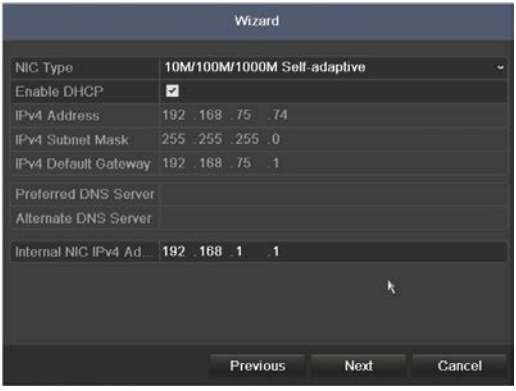



4. Click the **Next** button to open the date and time settings window.




5. In the date and time setup window, click the field you want to change, then use the drop-down list or setup aid to select the appropriate values. Click **Next** to confirm your settings or **Cancel** to discard them and open the network setup Wizard window.

6. In the **Network** setup Wizard window, click the field value you want to change, then use the pop-up aid to enter a new value. By default, the DVR uses DHCP (Dynamic Host Configuration Processor) to acquire compatible (dynamic, changeable) network settings from a network DHCP server.




Generally, it is preferable to setup the DVR with a fixed network settings, if possible, to assure the DVR has an unchanging IP address for remote login. To enable fixed network settings, un-check the **Enable DHCP** box, then edit the appropriate fields to change the settings. Consult with your network administrator to determine the best network settings for your DVR. When finished, click **Next**.

7. Click **Next** after you configured the network parameters. The HDD management Wizard window will open. If a new DVR is shipped with a pre-configured HDD, nothing needs to be done in this window. If you installed an HDD or replaced the HDD, select (check the box for) the HDD, then click **Init** to setup the disk for the DVR. **NOTE**: **Init** will erase all data from the disk. When the initialization is complete, click **Next** to continue.

8. Use the camera record mode Wizard as follows:

   a. On the Cameras line at the top of the window, open the drop-down list and select the camera you want to configure for recording.

b. Click the **Start Recording** box to check it.

c. Select one of the recording modes: either **Normal** or **Motion Detection** mode.

d. Repeat "**a**" and "**b**" above for each camera, and/or click **Copy** to copy the recording mode of the selected camera to other cameras in the system. The screen presented below is for a 4-channel NVR.

e. Click **OK** when the recording mode for each camera is selected. The Wizard will close and the NVR will present the **Live View** display. For more information about the Live View display, see "SECTION 4 Live View Interface" on page 57.

*Live View display*

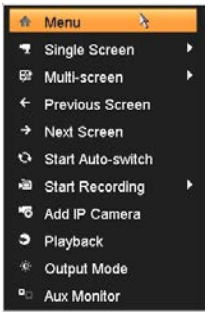
9. While viewing video from each cameras in the **Live View** display, adjust the direction of each camera to aim it at its surveillance target. Follow the manufacturer's recommended procedures for aiming the cameras.

*Live View display after camera adjustments*

## 2.6 Access the Menu system

After the initial setup of your DVR using the Wizard, the Menus interface enables you to refine your configuration settings and expand the functionality of the system. To use most menus, the user must log into the DVR system, either locally or remotely, with administrative privileges.

To open the Menu system from the Live View screen, right click anywhere in the screen, then select **Menu**.

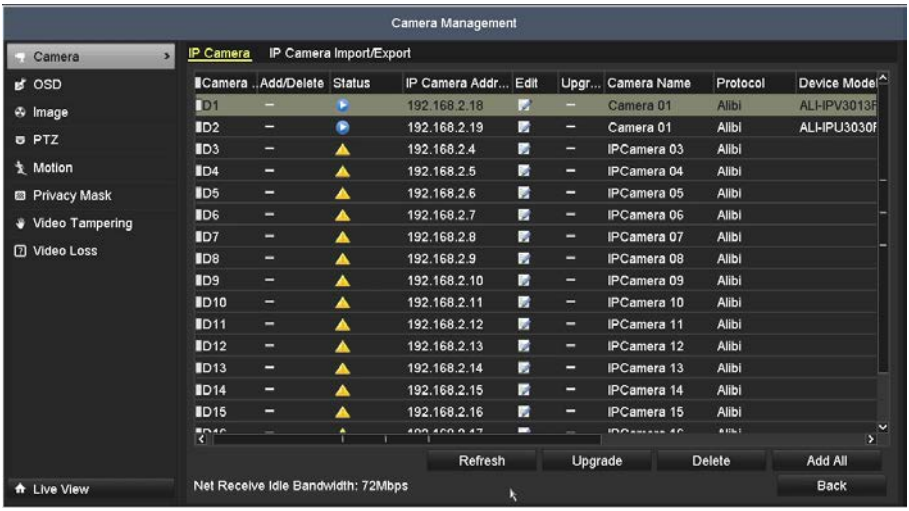


If ID Authentication is not disabled (see the **Menu | Configuration | General** settings), a login window will open. In the Login window, select a User Name with administrative privileges, enter its password, then click **OK**. **NOTE**: A window of Menu icons will open. The default user *"admin"* has the default password of *"1111"*.

## 2.7 Customize camera configurations

The **Camera** menu lists all cameras configured in the NVR, and shows the channel, name, timestamp, etc. of each. Using this menu, you can assign names to each camera for easy recognition, select areas for motion detection and privacy blocking, and configure alarm features (if supported by the camera). To customize the configuration settings of each camera, do the following:

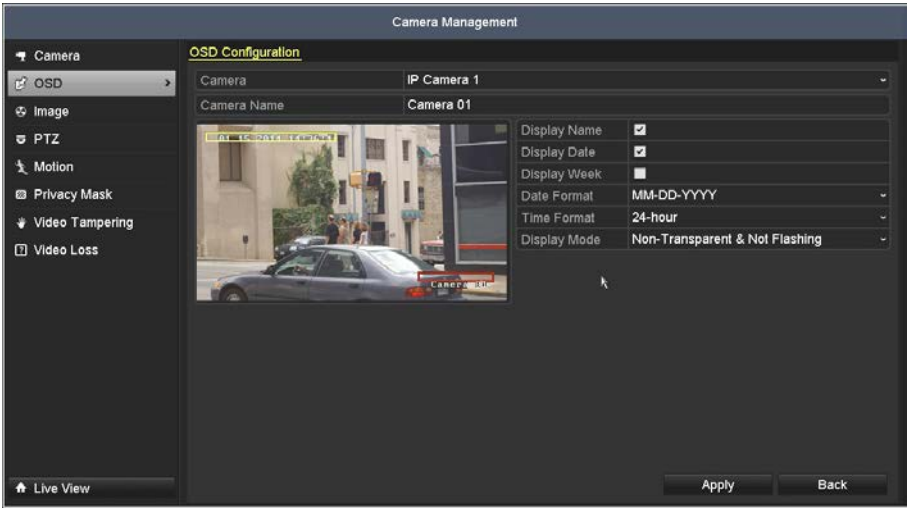
1. Open the Camera menu: right click anywhere on the Live View desktop, then click **Menu | Camera**.



## 2.7.1 Camera OSD setup

You can configure the OSD (On-Screen Display) settings for the camera, including date, time, day of week, camera name, etc.

1. Click **OSD** in the left frame to open the OSD submenu.




2. In the **Camera** field drop down list, select the camera you want to configure. In the example shown, **IP Camera 1** is selected.

3. Check or un-check the boxes to display the Name and Date. Also, edit the name in the **Camera Name** field, and select the date and time options you prefer.

**NOTE** *Cameras you manage with the NVR may be setup internally to show on-screen infirmation, such as name and timestamp. To change these settings, you must reconfigure the camera directly; the NVR cannot change these internal settings.*

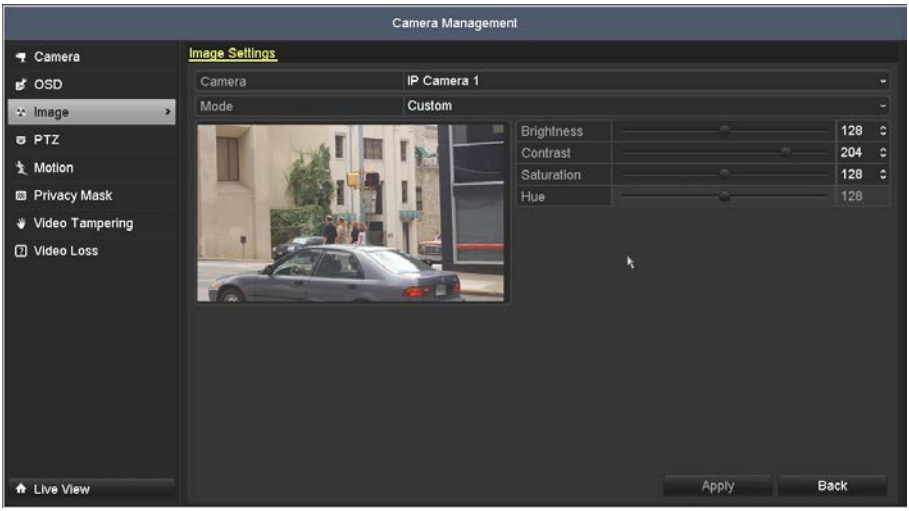
4. Click **Apply** to save your settings for this camera.

5. Click **Copy** to copy the Name and Date format settings to other cameras managed by the NVR, if needed.

6. Repeat sub-steps **2** through **5** above for each camera managed by the NVR, if necessary.

## 2.7.2 Camera Image setup

1. Click **Image** in the left frame to open the Image submenu.




2. In the **Camera** field drop down list, select the camera you want to configure. In the example shown, **IP Camera 1** is selected.

3. Drag the **Brightness**, **Contrast**, **Saturation** and **Hue** adjustment markers left or right to perfect the image from the camera. For some adjustments, you can click the up ( ▲ )or down ( ▼ )icons near the adjustment value (on the right side) to incrementally change the value of those adjustment.

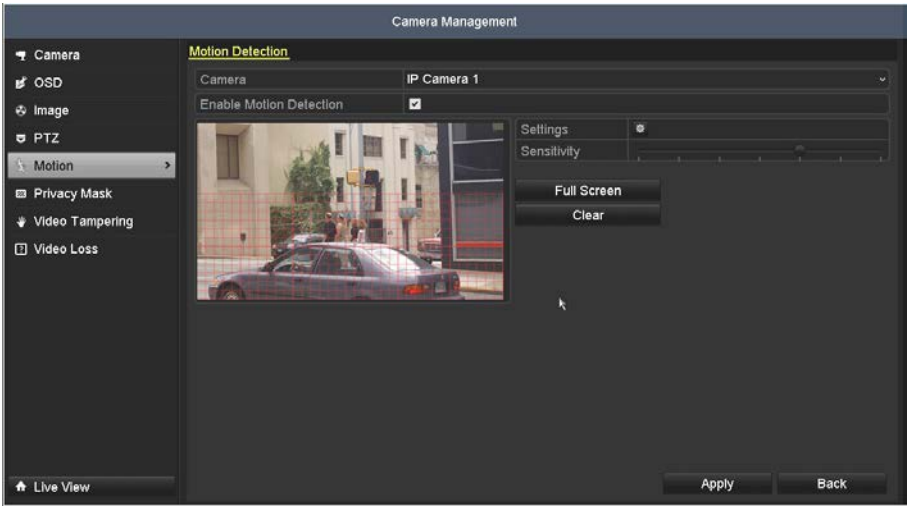
4. Click **Apply** to save your settings for this camera.

5. Repeat sub-steps **2** through **4** above for each camera managed by the NVR, if needed.

## 2.7.3 Camera Motion detection setup

Follow the steps to set the motion detection parameters. In the Live view mode, when a motion detection event takes place, the NVR can analyze it and do many actions to handle it. Enabling the motion detection function can trigger certain channels to start recording, or trigger full screen monitoring, audio warning, notify the surveillance center and so on. To setup motion detection for a camera, do the following:

1. Click **Motion** in the left frame to open the Motion submenu.




2. In the **Camera** field drop down list, select the camera you want to configure. In the example shown, **IP Camera 1** is selected.

3. Check or un-check the box to **Enable Motion Detection**. If you checked the box, the grid shown over the video image is the area where motion will be detected. To change this area, do the following:

**NOTE** *Defining a specific area where you want to detect for motion is more efficient for the NVR than searching for motion anywhere in the image.*

   a. Click **Clear** to erase the grid.

   b. Drag the mouse pointer across a rectangular area of the video image where you want to detect for motion. The area you select will be covered by a red grid. See the image above. You can select multiple motion detection area.

   c. Click **Apply** to save your settings.

   d. Observe the grid in the for motion sensing. When motion is sensed in a segment of the grid, it is filled with red. Adjust the Sensitivity slider to to detect the motion of objects moving through the image.

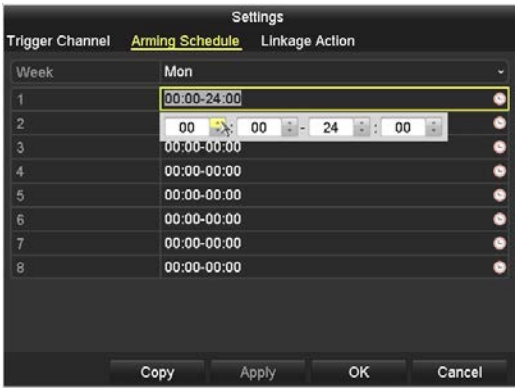
**NOTE** *Test your settings during broad conditions to ensure that motion in the field of view triggers an action. You may need to return to this menu later to adjust the **Sensitivity** slider to ensure it is working adequately.*

   e. Click **Apply** again to save your settings.

4. Click the **Settings** icon. In the Handling **Trigger Channel** tab:

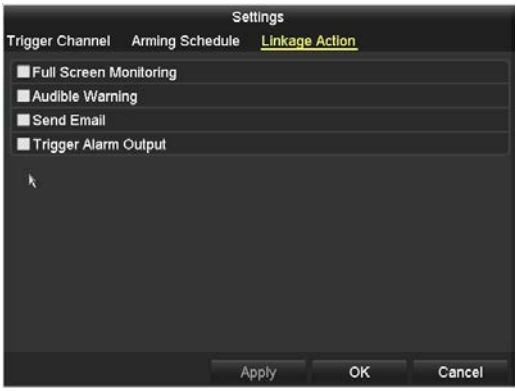
a. Select the other channels that should trigger recording on this channel, then click **Apply** to save your settings.

b. Click the **Arming Schedule** tab. In this tab, you can define a daily schedule for up to eight weeks (56 days) when motion detection is monitored. Time periods cannot overlap.




c. Click **Apply** to save the settings. You can also click Copy to copy the Arming Schedule setup in the window to other days of the week.

d. Click the **Linkage Action** tab. In the Handling tab, you can cause certain actions to occur when motion triggered recording occurs.



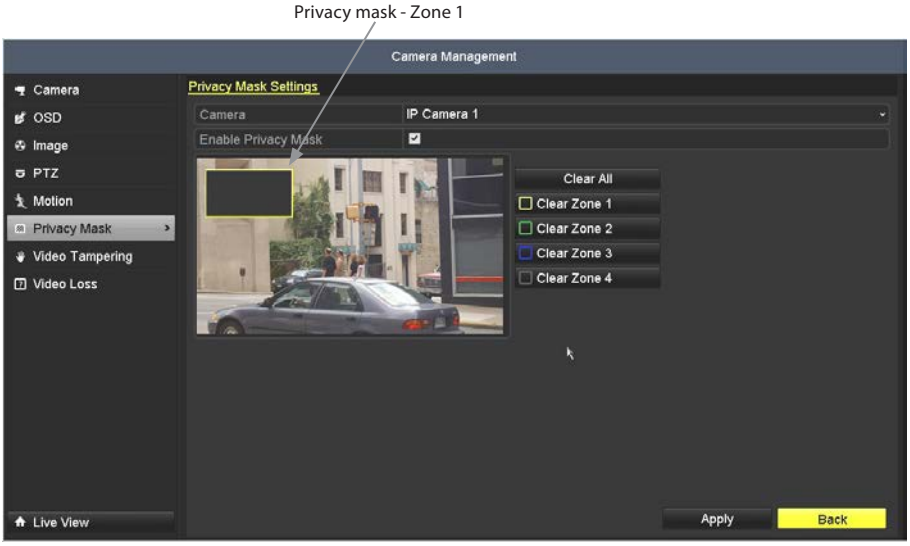

e. Select the actions you want to occur, then click **Apply** to save your settings, and **OK** to return to the **Motion** menu. The **Notify Surveillance Center** and **Send Emai**l options require additional network settings.

5. In the **Motion** menu, click **Apply** to save your settings for this camera.

6. Repeat sub-steps **2** through **5** above for each camera managed by the NVR, if necessary.

## 2.7.4 Camera Privacy Mask setup

1. Click **Privacy Mask** in the left frame to open the Privacy Mask submenu.



2. In the **Camera** field drop down list, select the camera you want to configure. In the example shown, **IP Camera 1** is selected.

3. Check or un-check the box to **Enable Privacy Mask**. If you checked the box, drag a rectangle across the area of the video that you want to block. In the video above, the area over the keyboard was blocked to prevent others from seeing passwords or other private information that might be entered into the register.

4. You can create up to four privacy zones for each camera. Use the "clear" buttons to remove zones you created.

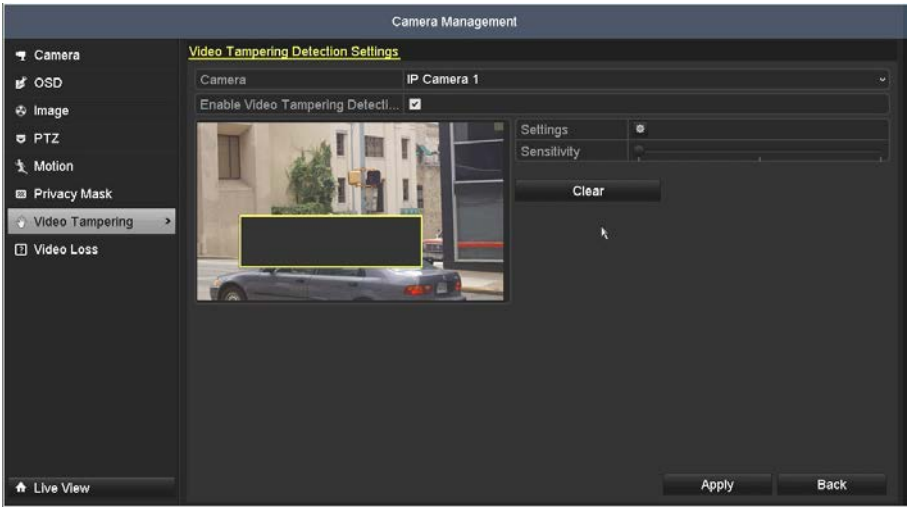
5. Click **Apply** to save your settings for this camera.

6. Repeat sub-steps **2** through **5** above for each camera managed by the NVR, if needed.

## 2.7.5 Camera Video Tampering setup

A Video Tampering alarm is created when the lens (an area of the image) is covered. The alarm can cause the NVR to initiate several actions.

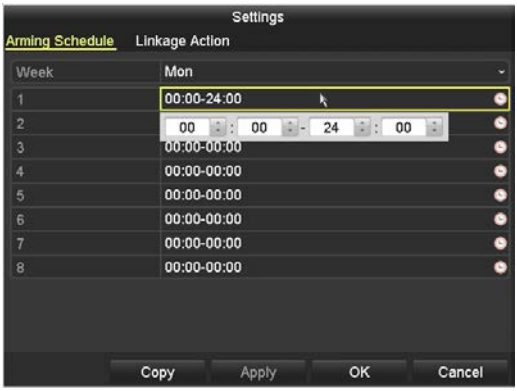
1. Click **Video Tampering** in the left frame to open the **Video Tamper Detection Settings** submenu.




2. In the **Camera** field drop down list, select the camera you want to configure. In the example shown, **IP Camera 1** is selected.

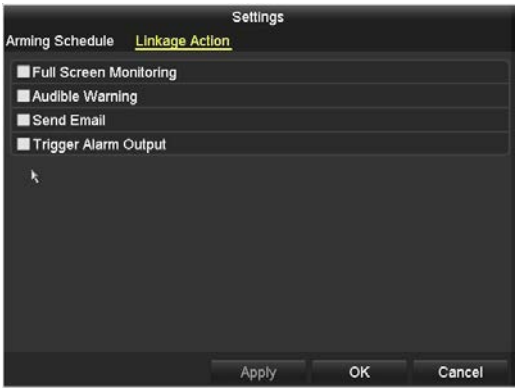
3. Check or un-check the box to **Enable Video Tampering Detection**. If you checked the box, drag a rectangle across the area of the video that you want to monitor.

4. Click the **Settings** icon. In the Handling window:




a. In the **Arming Schedule** tab, define a daily schedule for up to eight weeks (56 days) when the camera is monitored for tamper. Time periods cannot overlap.

b. Click the **Linkage Action** tab. In this tab, you can cause certain actions to occur when tampering occurs.




c. Select the actions you want to occur, then click **Apply** to save your settings, and **OK** to return to the **Tamper-proof** menu. The **Send Email** option require additional network settings. See "SECTION 8 Network Settings" on page 125 for more information.

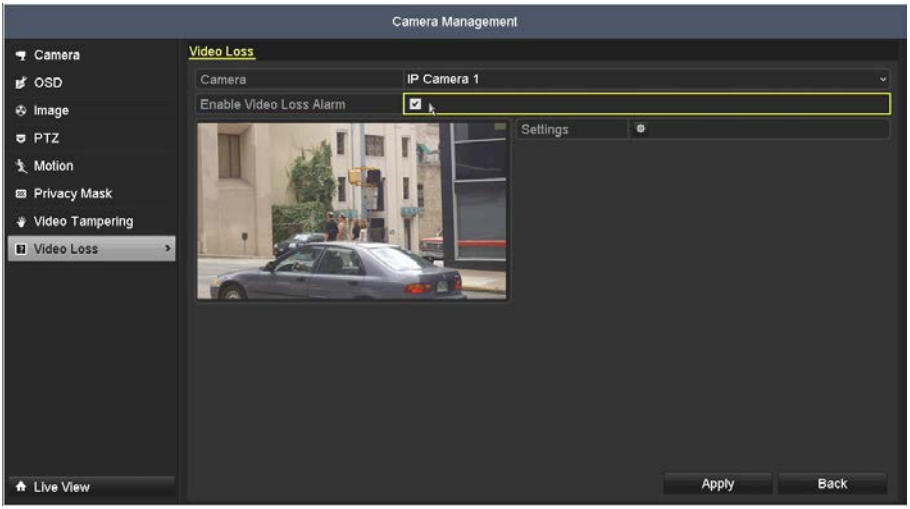
d. In the **Tamper-proof** menu, click **Apply** to save your settings for this camera.

e. Repeat sub-steps **2** through **4** above for each camera managed by the NVR, if necessary.

**NOTE** *Test your settings during broad conditions to ensure that your tamper-proof settings trigger an action. You may need to return to this menu later to adjust the **Sensitivity** slider to ensure the feature is working properly.*

## 2.7.6 Camera Video Loss setup

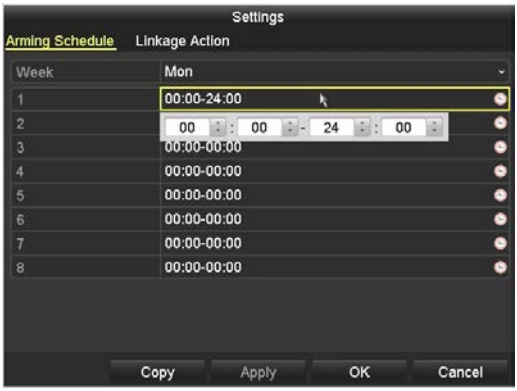
1. Click **Video Loss** in the left frame to open the Video loss submenu.




2. In the **Camera** field drop down list, select the camera you want to configure. In the example shown, **IP Camera 1** is selected.

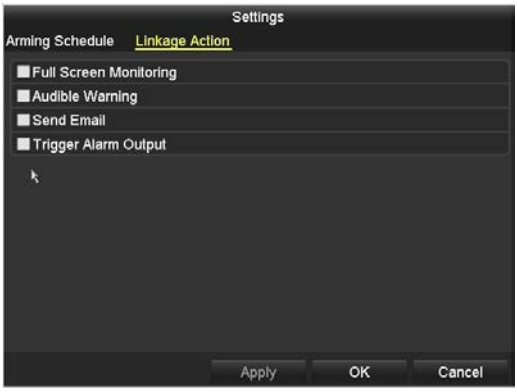
3. Check or un-check the box to **Enable Video Loss**. If you checked the box, do the following:

    a. Click the **Settings** icon.




b. In the **Arming Schedule** tab, define a daily schedule for up to eight weeks (56 days) when motion detection is monitored. Time periods cannot overlap.

c. Click the **Linkage Action** tab. In this tab, you can cause certain actions to occur when video loss occurs.




d. Select the actions you want to occur, then click **Apply** to save your settings, and **OK** to return to the **Video Loss** menu. The **Notify Surveillance Center** and **Send Emai**l options require additional network settings.

4. In the **Video Loss** menu, click **Apply** to save your settings for this camera.

5. Repeat sub-steps **2** through **4** above for each camera managed by the NVR, if necessary.

## 2.8 Adding cameras manually

IP cameras can connect to the NVR either through the IP ports on the back panel of the NVR, or through the LAN the NVR is connected to. IP cameras connected to the IP ports on the back panel are automatically added to the system by the NVR. Cameras that exist on the LAN must be added manually through the NVR Camera menus.

The number of cameras connected to the ports on the back of the NVR that are in use plus the number of cameras on the LAN added to the NVR cannot exceed the camera limit of the NVR. For example, with the ALI-NVR5032P NVR you can connect 16 cameras to the ports on the back of the NVR, and add 16 cameras on the LAN for a total of 32 cameras.

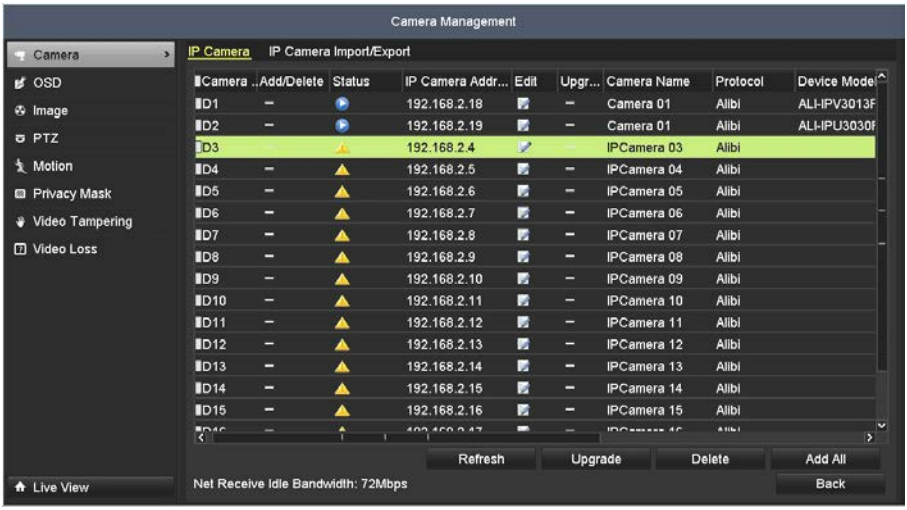
Use the following procedural guidelines installed on the LAN.

**NOTE** *For a lists IP cameras compatible with your NVR, refer to: "APPENDIX D NVR Compatible Cameras" on page 129.*

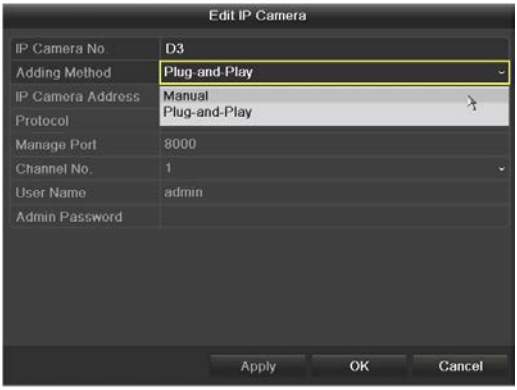
1. Open the Camera Management menu. Go to **Main menu | Camera | IP Camera**

   a. Verify that the manufacturer and model of the camera you want to add is compatible with the NVR. Contact your NVR equipment supplier for more information.

   b. In the Camera management window (see below), click an unused channel to select it. In the example below, channel **D3** was selected. **NOTE**: Camera channels D1 through D16 are associated with ports on the back of the NVR. These channels can be used to add cameras on the LAN, if the port on the back of the NVR is, or will be, unused.

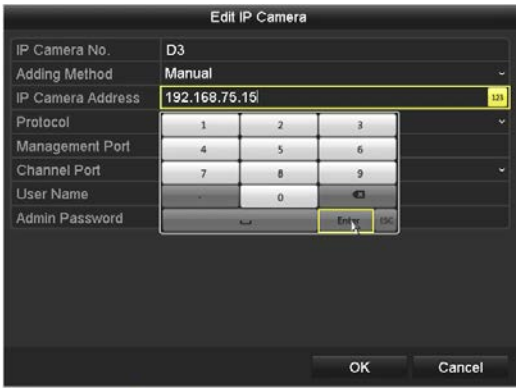



c. For the camera channel selected, click the icon in the **Edit** column. The **Edit IP Camera** window will open.

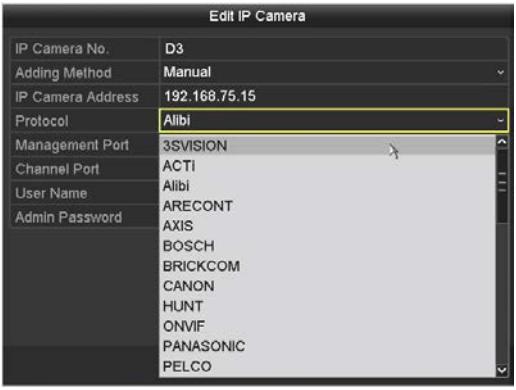



d. On the **Adding Method** line, open the drop down list and select **Manual**.

e. On the **IP Camera Address** line, click the entry field and use the pop-up keyboard to enter the IP address of the camera you want to add.




f. On the **Protocol** line, click the entry field and select the camera protocol (usually the manufacturer's name) of the camera you want to add. The Protocol is shown in the camera data discovered during the search. You can also choose a preset custom protocol if it applies. See "2.8.2 Configuring customized protocols" on page 36 for more information.

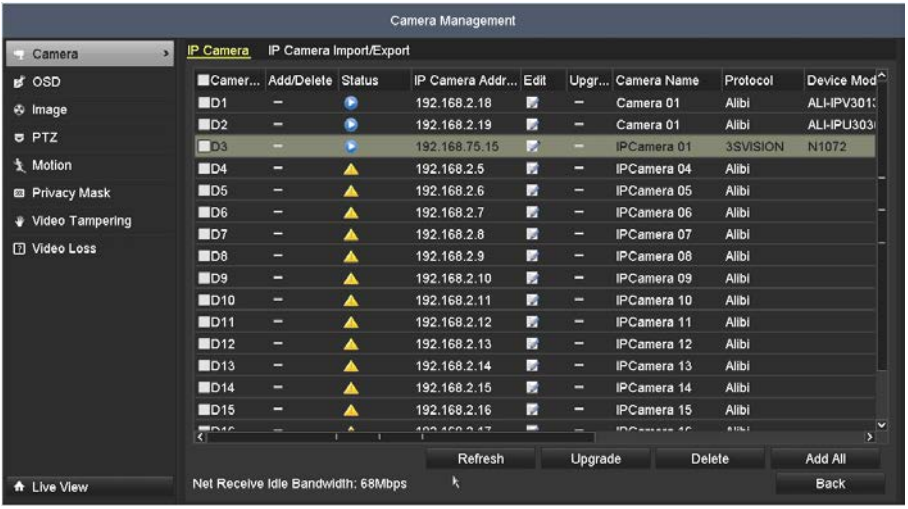



g. On the **Management** line, click the entry field and use the pop-up keyboard to enter the Manage port of the camera you want to add. The Manage Port number is shown in the camera data discovered during the search.

h. On the **User Name** and **Password** lines, click the entry fields and use the pop-up keyboard to enter the administrative username and password of the camera you are adding. Password can contain only numerical characters. For new cameras, this information is the default setting. It is usually included in the documentation provided with the camera.

i. Click **Apply**, and then click **OK** to close the **IP Camera Edit** window.

j. In the IP Camera screen, click the Refresh button at the bottom of the camera list. The camera you added will appear and show a Connected status, usually within a three minutes.




k. For the camera you added, click the icon in the Live column to verify that a video image is being received by the NVR.

## 2.8.1 Editing camera options

After adding of the IP cameras that are installed on the local LAN to the NVR, some camera setup information can be reconfigured.

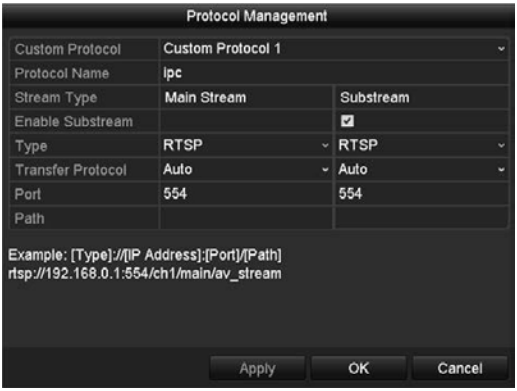
1. For the entry in the camera channel table, click the icon in the edit column.

2. Change the settings in the **Edit IP Camera** menu as needed.

3. Click **Apply** to save the settings, and then click **OK** to close the menu.

## 2.8.2 Configuring customized protocols

4. There are 16 customized protocols provided in the system (Custom Protocol 1 – Custom Protocol 16) . These protocols are included for future implementation.




**NOTE** *Before customizing the protocol for the network camera, contact the manufacturer for specific information regarding main stream and sub-stream setup requirements.*

**Example**: The format of the URL is: [Type]://[IP Address of the network camera]:[Port]/[Path]. E.g., rtsp://192.168.1.55:554/ch1/main/av_stream.

- **Protocol Name**: Edit the name for the custom protocol.
- **Enable Substream**: If the network camera does not support sub-stream or the sub-stream is not needed, leave the checkbox empty.
- **Type**: The network camera adopting custom protocol must support getting stream through standard RTSP.
- **Transfer Protocol**: Select the transfer protocol for the custom protocol.
- **Port**: Set the port No. for the custom protocol.
- **Path**: Set the resource path for the custom protocol. E.g., ch1/main/av_stream.

5. Click **Apply** to save the settings, and then click **OK** to close the menu. After adding the customized protocols, you can select the protocol name listed in the drop down list. See the screen below.

6. Select the custom protocol you configured, and then enter the IP address, user name and password of the camera.

7. Click **Add** to add the camera.

## 2.9 Configuring HDD settings

### 2.9.1 Checking HDD status.

Check the status of the HDD installed in the DVR to assure it is functioning normally.

1. Open the HDD Information display. Go to **Menu | HDD |General**

2. Check the status of the HDD. If the status is:
   - **Normal** or **Sleeping** - The HDD is working normally.
   - **Uninitialized** or **Abnormal** - Initialize the HDD before continuing. Check the select box of the HDD to initialize, then click the **Init** button at the bottom of the screen.
   - **Failed** - If the HDD failed during or after initialization, replace the HDD.

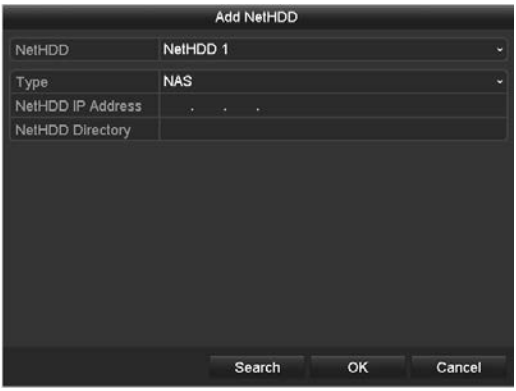
3. If you installed a new HDD in your NVR chassis, select the HDD in the window then click **Init** to initialize it for use. Allow the initialization procedure to complete before continuing.

## 2.9.2 Managing Network Storage

Additional file storage can be added to your DVR using up to 8 NAS disks, or up to 7 NAS disks with 1 IP SAN disk. To configure this storage:

1. Open the HDD Information interface. Go to **Menu | HDD | General**

2. Click the **Add** button at the bottom of the screen to open the **Add NetHDD** menu.




3. In the **NetHDD** drop down list, select the NetHDD ID (NetHDD 1 .. NetHDD 8) you want to add.

4. In the **Type** drop down list select either NAS or IP SAN.

5. Configure the device type you selected.
   - **For a NAS disk:**
     i. Click the **NetHDD IP Address** field to open a virtual keyboard and enter the IP address of the storage device.

ii. Click the **Search** button to search for available NAS disks.

iii. Select the NAS disk directory from the list shown, or manually enter the directory in the text field of NetHDD Directory.

iv. Click **OK** to add the NAS disk to your system.

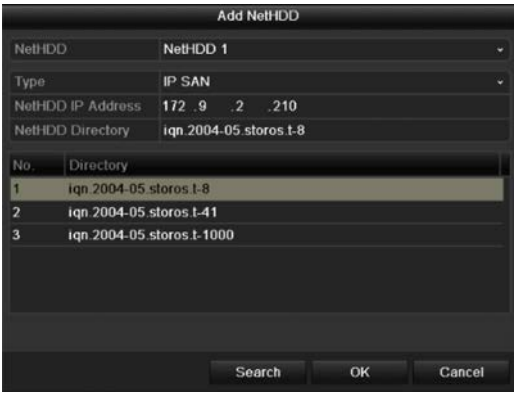
— **For an IP SAN disk:**

i. In the **Add NetHDD** window, click the **Type field**, then select **IP SAN**.

ii. Enter the NetHDD IP address in the text field.

iii. Click **Search** to discover the available IP SAN disk directories on the network.

iv. Select the IP SAN disk directory from the list shown below.




v. Click **OK** to add the selected IP SAN disk to your system.

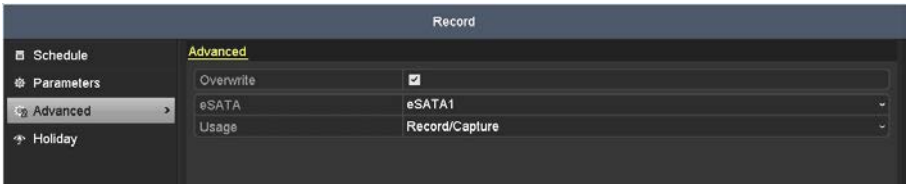
**NOTE** *If the added NetHDD is uninitialized, select it and click the* **Init** *button for initialization. Initializing an storage device erases all data saved on the disk.*

6. Add additional disks as needed up to a maximum of 8 NAS, or 7 NAS and 1 IP SAN.

## 2.9.3 Managing eSATA

When there is an external eSATA device connected to NVR, you can configure eSATA for the use of **Record/Capture** or **Export**. To manage the eSATA device connected to the NVR.

1. Go to **Menu | Record | Advanced**.

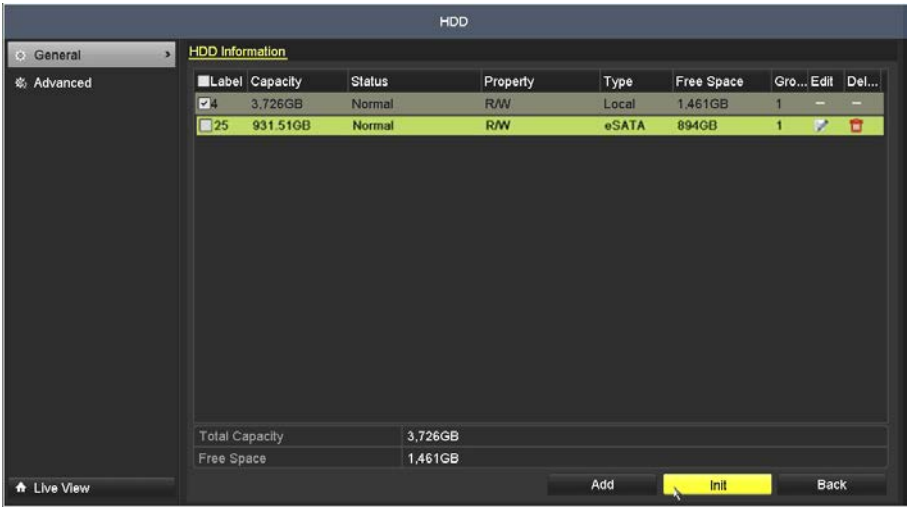



2. Open the **Usage** drop down list and select either **Export** or **Record/Capture**.

   **Export**: Use the eSATA device for backup. Refer to Backup using eSATA HDDs in Chapter Backing up by Normal Video Search for operating instructions.

**Record/Capture**: Use the eSATA device for record and capture data. Refer to the following steps for operating instructions.

3. If the eSATA device will be used for **Record/Capture**, open the HDD Information interface. Go to **Menu | HDD | General**.




a. Edit the property of the eSATA device, or click **Init** to initialize it. Refer to "2.9.4 Configuring the HDD" on page 42 for more information.

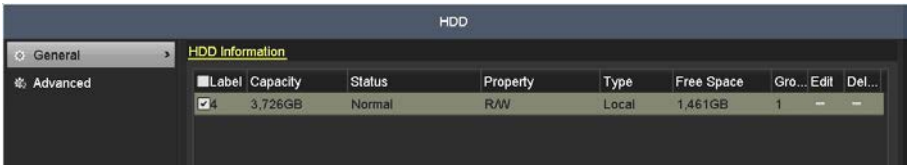
## 2.9.4 Configuring the HDD

By default, all cameras will record to the one partition(s) of the internal HDD(s). However, the NVR can be configured to allocate space in one of two modes:

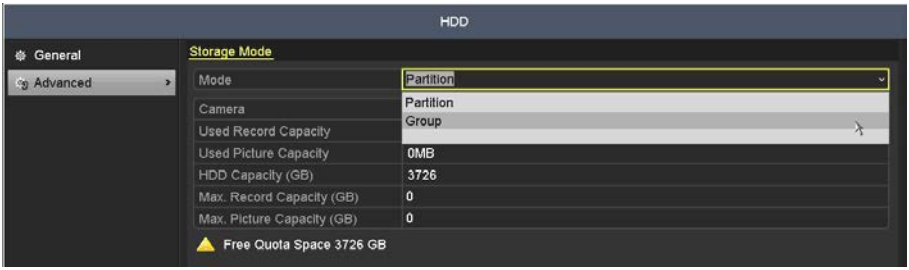
- **Partition** mode: Each camera can be allocated it's own recording space on a storage device (HDD).
- **Group** mode: Groups of cameras can each be allocated recording space on a storage device. Configuring the HDD for Group recording mode requires an NVR reboot.

To use this feature:

1. Go to **Menu | HDD | General**.



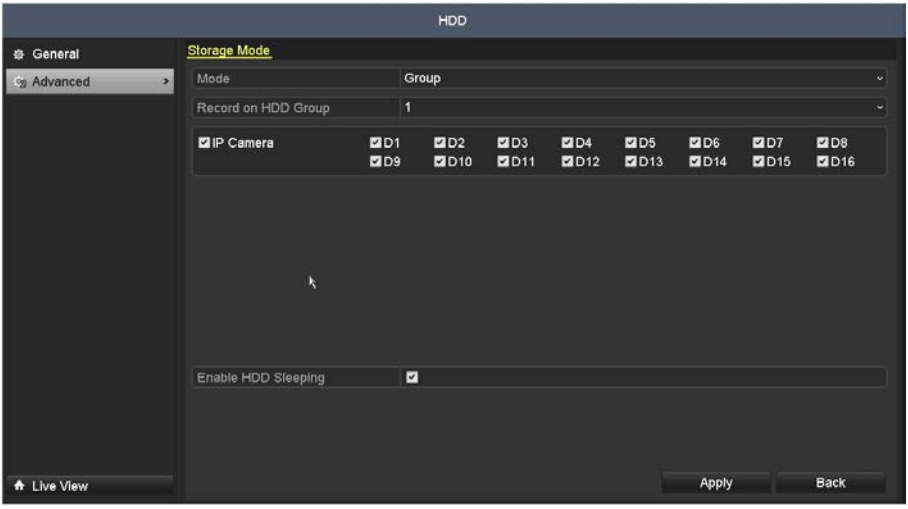

2. Click **Advanced** to check the storage mode of the HDD.




a. In the **Mode** select field, select either **Partition** or **Group**.

i. If you selected **Partition**, select a camera in the **Camera** field, then enter the size, in gigabytes, in the **Max. Record Capacity** field. Repeat this step for each camera. Click **Apply**.

ii. If you selected **Group**, the following window will open. In this window, select a group number, then select the cameras that are part of that group. Note that a NVR restart is required to use configure the NVR for this feature.

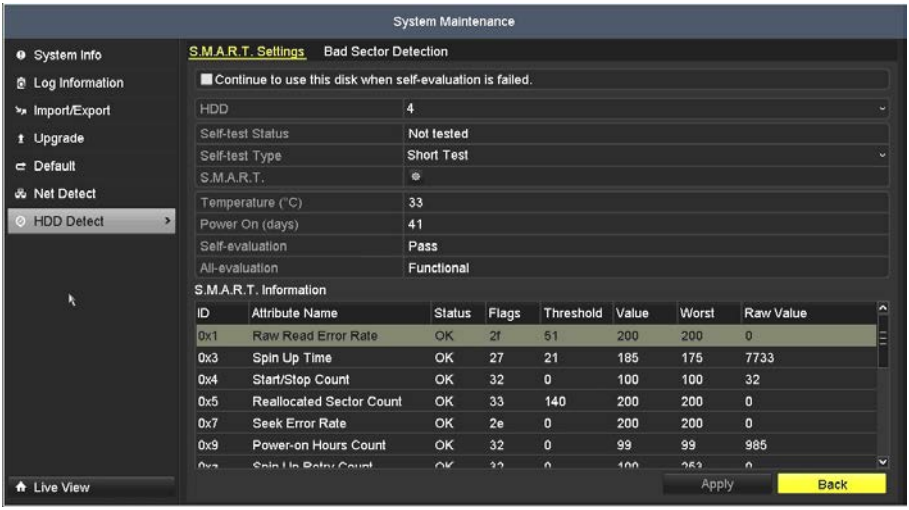


## 2.9.5 HDD Detect.

The **HDD Detect** feature provides two methods of monitoring the HDD: display of **S.M.A.R.T.** (Self-Monitoring, Analysis and Reporting Technology) data, and **Bad Sector Detection**. These methods can be used to assure the normal functioning of the disk, and anticipate failures.

### S.M.A.R.T. Display

1. Open the S.M.A.R.T. display menu. Go to **Menu | System Maintenance | HDD Detect**




2. To execute a self-evaluation test on an HDD:

   a. On the **HDD** line, open the drop down list to select the HDD of interest.

   b. On the **Self-test Type** line, open the drop down list to select the type of test to execute. You can choose either Short Test, Expanded Test or Conveyance Test.

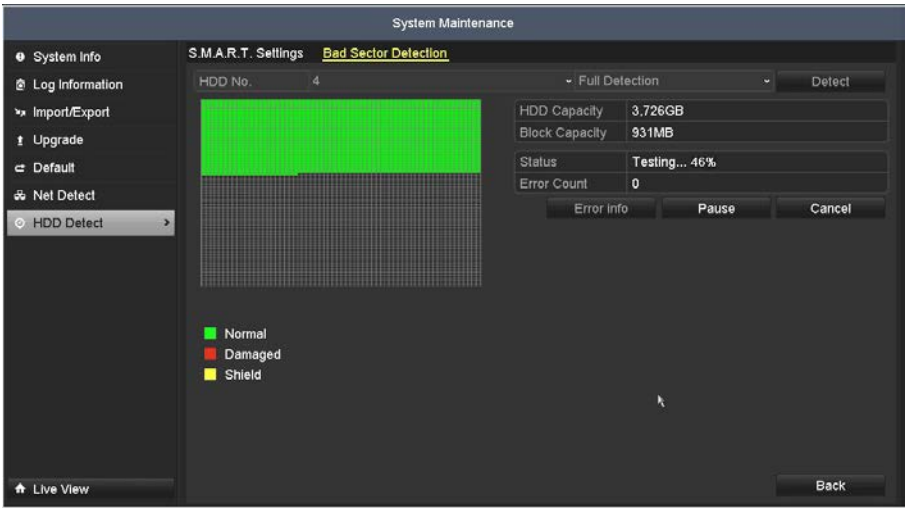
   c. Click the icon on the **S.M.A.R.T.** line to execute the test. Allow the test to complete before continuing. The result of the test is shown on the Self-evaluation line.

3. Examine the S.M.A.R.T. data provided for the HDD. Check to ensure that the data in the value and Worst column does not exceed the data in the Threshold column.

**NOTE** *S.M.A.R.T. data provided by each HDD manufacturer is usually different. Refer to the manufacturer's website for S.M.A.R.T. data definitions.*

### Bad Sector Detection

1. Open the Bad Sector Detection menu. Go to **Menu | System Maintenance | HDD Detect | Bad Sector Detection**
2. On the **HDD No.** line, open the drop down list and select the number of the HDD you want to test.
3. Click the **Detect** button to start the detection. Bad sectors are identified in the array as red colored cells.




**Click** Pause to temporarily stop the scan, and click **Cancel** to end the scan.

Click **Error info** to see the detailed damage information.

## 2.10 Configuring Exception Alarms

The DVR monitors for and respond to certain system-related alarm conditions (exception alarms). Monitoring for and response to these exceptions are configurable.

Exception alarm conditions include:

- **HDD Full**: The HDD is full.

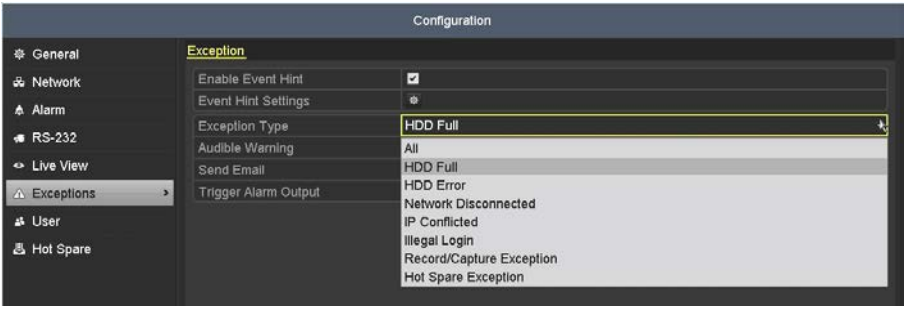
- **HDD Error**: Writing HDD error or unformatted HDD.
- **Network Disconnected**: Disconnected network cable.
- **IP Conflicted**: Duplicated IP address.
- **Illegal Login**: Incorrect user ID or password.
- **Record/Capture Exception**: No space exists for saving recorded files.
- **Hot Spare Exception**: Disconnected with the working device.

Responses to exception alarms include:

- **Audible Warning**: Trigger an audible beep when an alarm is detected.
- **Send Email**: Send an email with alarm information to a user or users when an alarm is detected.
- **Trigger Alarm Output**: Trigger an alarm output when exception is detected.

To configure exception alarms:

1. Open the **Exception** menu. Go to **Menu | Configuration | Exceptions**




2. On the **Exception Type** line, open the drop down list and select the exception condition you want to configure. If you select **All**, all exception conditions will be treated the way you configure the response.

3. Select the response options you want to use.

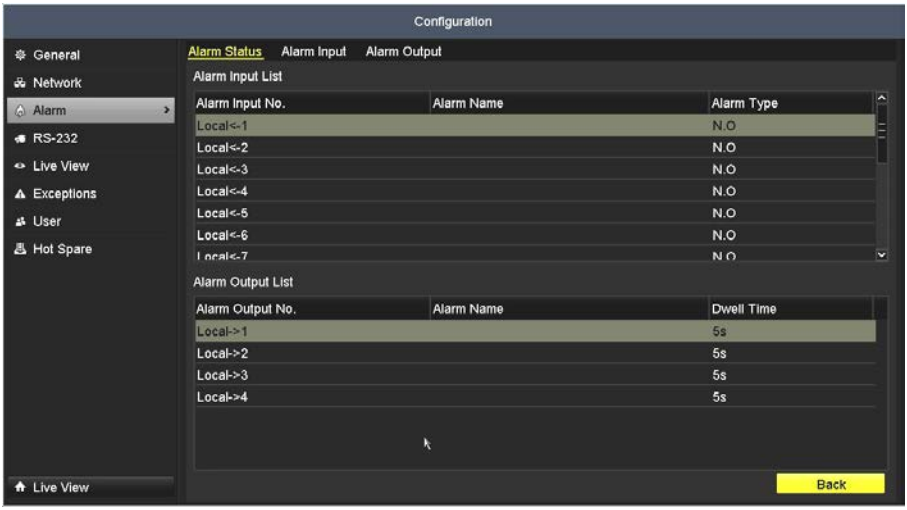
4. Click **Apply** to save your settings.

5. Repeat these steps for other Exception Types you want to configure.

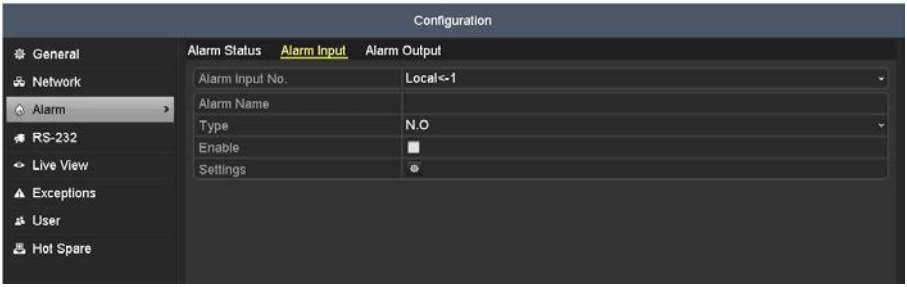
## 2.11 Setting sensor alarms

Use this subsection to configure how the NVR reacts to sensor alarms wired to the RS-485 ALARM IN/OUT terminals on the back panel. Alarm inputs can be normally open (N.O.), or normally closed (N.C.).

1. Open the **Alarm** menu. Go to **Menu | Configuration | Alarm**




2. Select the **Alarm Input** tab.




3. Open the **Alarm Input No.** drop down list and select the alarm input you want to configure. In the example above, **Local<-**1 is selected.

4. Open the Type drop down list and select the active state of the alarm. Choose either **N.O.** for normally open, **N.C.** for normally closed.

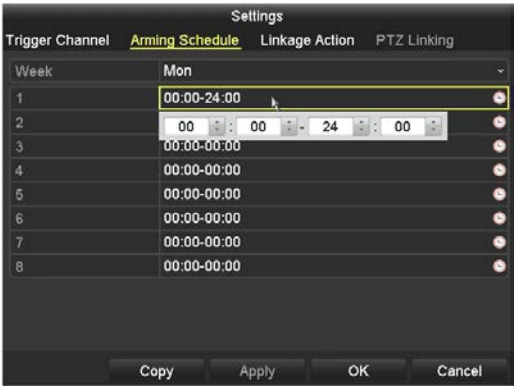
5. Check the **Enable** box to enable the alarm.

6. Click **Settings** icon to open the alarm response actions menus.

7. Select the **Trigger Channel** tab, if not selected. Select one or more camera channels which will start to record/capture or become full-screen monitoring when the external alarm is active.

8. Click **Apply** to save the settings.

9. Select the **Arming Schedule** tab to set the arming schedule of actions.



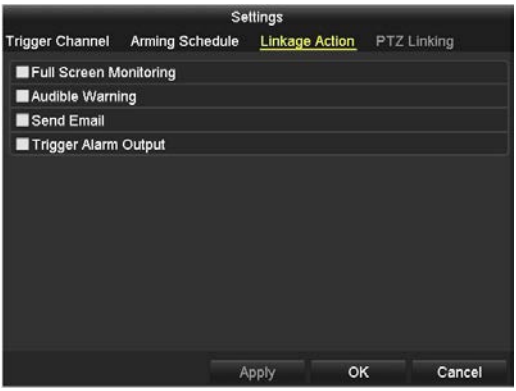

10. Choose one day of the week, then click the entries below to specify the time periods when the alarm will be armed. A maximum of eight time periods can be set within each day. Time periods cannot overlap or be repeated.

11. Click **Apply** to save the settings.

12. Repeat the previous step for other days of the week, or click the **Copy** button to apply the same schedule to other days.

13. Click **Apply** to save the settings.

14. Select the **Linkage Action** tab to set up alarm response actions of the alarm input.




15. In the **Linkage Action** menu, select the actions you want to occur when the alarm is active, then click **Apply** to save the settings. If PTZ cameras are not installed on your system, click **OK** to return to the **Alarm Input** menu.

16. If PTZ cameras are installed on your system, select the **PTZ Linking** tab to set up alarm response actions of PTZ cameras.

**NOTE**

- *Verify that your PTZ or speed dome camera supports PTZ linkage before making these settings.*
- *One alarm input can trigger presets, patrols or patterns of more than one channel.*

17. Select the preferred options in the **PTZ Linking** menu, then click **Apply**.

18. Click **OK** to return to the **Alarm Input** menu.

19. Repeat steps 3 - 18 above to configure additional alarm inputs connected to your NVR, if necessary. You can also copy an the alarm input setup you saved to other alarm inputs. To do so:

    a. Click the **Copy** button at the bottom of the Alarm Input menu.

    b. Check the boxes for the alarm inputs you want to copy the configuration to.

    c. Click **OK** to save your settings.

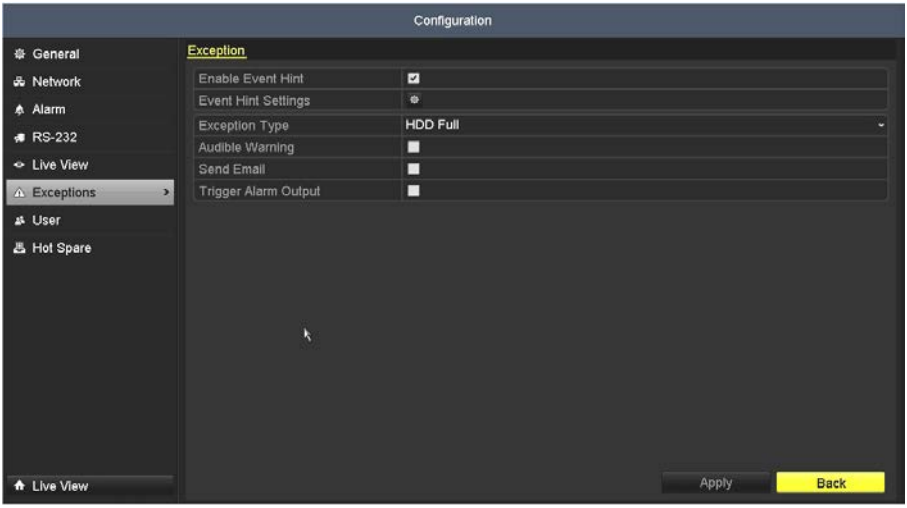
## 2.12 Setting alarm response actions

Alarm response actions will be activated when an alarm or exception occurs, including Event Hint Display, Full Screen Monitoring, Audible Warning (buzzer), Notify Surveillance Center, Upload Picture to FTP, Trigger Alarm Output and Send Email.

### Event Hint Display

When an event or exception happens, a hint can be displayed on the lower-left corner of live view image. And you can click the hint icon to check the details. Besides, the event to be displayed is configurable.

1. Open the **Exceptions** menu. Go to **Menu | Configuration | Exceptions**




2. Check the **Enable Event Hint** box. See above.

3. Click the icon to set the type of event to be displayed on the image.

## Full Screen Monitoring

When an alarm is triggered, the local monitor (VGA, HDMI or BNC monitor) the video image from the alarming channel configured for full screen monitoring is displayed.

If alarms are triggered simultaneously in several channels, their full-screen images will be switched at an interval of 10 seconds (default dwell time). A different dwell time can be set by going to **Menu | Configuration | Live View | Full Screen Monitoring Dwell Time**.

Auto-switch will terminate when the alarm condition ends. The NVR will revert to the Live View interface.

**NOTE** *You must select the channel(s) you want to display with full screen monitoring in the "Trigger Channel" settings menu.*

## Audible Warning

Trigger an audible beep when an alarm is detected.

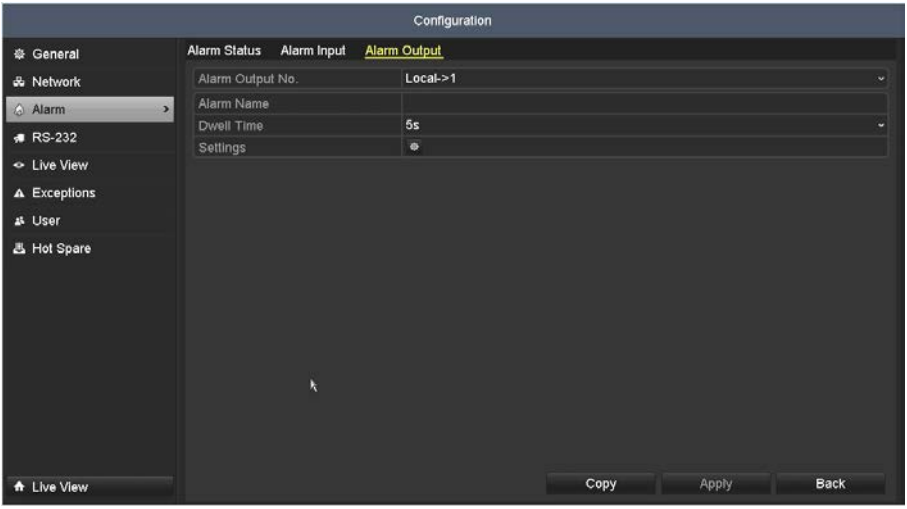
## Email Linkage

Send an email with alarm information to a user or users when an alarm is detected. The Email networking feature must be configured for email to be sent.

## Trigger Alarm Output

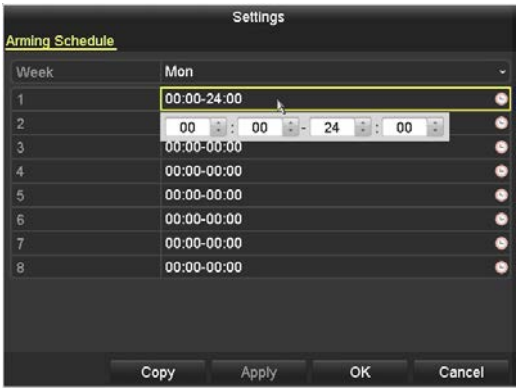
Trigger an alarm output when an alarm is triggered.

1. Open the Alarm Output menu. Go to **Menu | Configuration | Alarm | Alarm Output**




2. Select an alarm output, set alarm name, then specify a dwell time.

3. Click the **Settings** icon ( )to open the **Schedule** menu.




4. Choose one day of the week, then click the entries below to specify the time periods when the alarm will be armed. A maximum of eight time periods can be set within each day. Time periods cannot overlap or be repeated.

5. Click **Apply** to save the settings.

6. Repeat the previous step for other days of the week, or click the **Copy** button to apply the same schedule to other days, or repeat the previous step for customizing the schedule to every day.

7. Click **Apply** to save the settings, then click **OK** to return to the **Alarm Output** menu.

8. Repeat steps 3 - 7 above to configure additional alarm outputs connected to your NVR, if necessary. You can also copy an the alarm input setup you saved to other alarm inputs. To do so:

    a. Click the **Copy** button at the bottom of the Alarm Input menu.

    b. Check the boxes for the alarm outputs you want to copy the configuration to.

    c. Click **OK** to save your settings.

# SECTION 3
# Startup, Shutdown, Reboot

After the DVR and cameras are installed, the DVR system must be configured to function in the surveillance mode(s) that best serve your needs. This chapter includes the essential steps to get your system running, including configuring the DVR date and time, and setting up the LAN interface, cameras and recording modes. Advanced features, including remote access, video export, adding user names and setting user permissions, etc. are described in later sections of this manual.

## 3.1 Starting Up, Shutting Down and Rebooting the DVR

### 3.1.1 Startup

Proper startup and shutdown procedures are essential for getting the most out of your DVR. To startup:

1. Check the power cable is plugged into a standard electrical outlet. It is HIGHLY recommended that an Uninterruptible Power supply (UPS) be used in conjunction with the device.

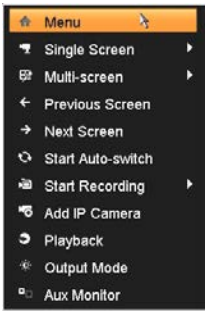
2. Rock the **POWER** switch on the back panel to the on ("I") position. The Power indicator LED on the front panel should turn green indicating that the unit is powered on.

3. After startup, the Power indicator LED remains green. A splash screen will appear on the monitor.

### 3.1.2 Shutdown

To shut down the DVR:

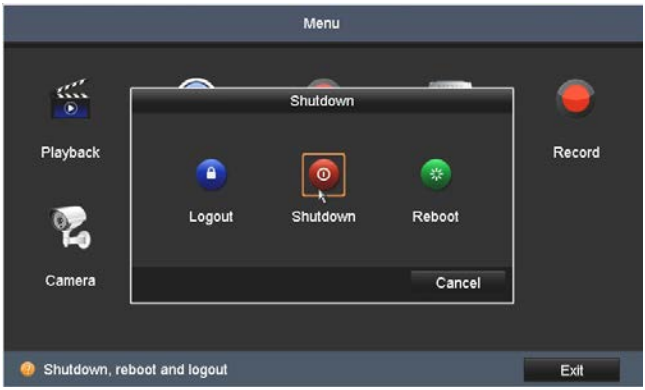
1. Right click anywhere on the desktop to open the pop-up window, then select **Menu**.




2. If a **Login** window opens, select a User Name with administrative privileges, enter the appropriate Password, then click **OK**.

**NOTE** *The default User Name with administrative privileges and its associated Password are* **admin** *and* **1111**.

3. In the **Menu** window, click the **Shutdown** icon, then click **Shutdown** in the pop-up window.




4. Click **Yes** in the **Attention** window.

5. When the message **Please power off!** appears, rock the power switch on the back panel to the off ("**0**") position.

## 3.1.3 Rebooting the DVR

In the Shutdown menu, you can also reboot the DVR.

1. Open the Shutdown menu by clicking **Menu | Shutdown**.

2. In the **Menu** window, click the **Shutdown** icon, then click **Reboot** in the pop-up window.

3. Click **Yes** in the **Attention** window.

# SECTION 4
# Live View Interface

The Live View interface is the primary camera viewing and monitoring mode. It can be configured to present video from the cameras configured in the system singularly or in multi mode, or using a "patrol" feature wherein video from each of a select group of cameras is displayed singularly and sequentially, with each camera view shown for a preset duration (dwell). The Live View screen can be configured to display 1, 4, 6, 8, 9 or 16 camera channels concurrently, or playback recorded video.

*Live View 2 * 2 multi-screen display*

Each camera channel displayed on the Live View screen may contain one or both status icons in the upper-right corner of the viewing frame.

## 4.1 Operations in Live view mode

In Live view mode, several features are provided:

- **Single Screen**: showing only one screen on the monitor.
- **Multi-screen**: showing multiple screens on the monitor simultaneously.
- **Auto-switch**: the screen is auto switched to the next camera. You must set the dwell time for each screen on the configuration menu before enabling the auto-switch. See **Menu | Configuration | Live View | Dwell Time**.
- **Start Recording**: continuous record and motion detection record are supported.
- **Output Mode**: select the output mode to Standard, Bright, Gentle or Vivid.

- **Add IP Camera**: the shortcut to the IP camera management interface.
- **Playback**: playback the recorded videos for current day.
- **Aux/Main output switch**: the NVR checks the connection of the output interfaces to define the main and auxiliary output interfaces. The priority level for the main and aux output is **HDMI > VGA > CVBS**. This means if the HDMI is used, it will be the main output. If the HDMI is not used, the VGA output will be the main output. See the table below.

### Table 1. Interface priority

| | HDMI | VGA | CVBS | Main output | Auxiliary output |
|---|---|---|---|---|---|
| 1 | √ | √ | √ | HDMI | VGA |
| 2 | √ | × | √ | HDMI | CVBS |
| 3 | × | √ | √ | VGA | CVBS |
| 4 | × | × | √ | CVBS | |

√ means the interface is in use.
× means the interface is not in use or the connection is invalid.
HDMI, VGA and CVBS can all be used at the same time.

When the aux output is enabled, the main output can't do any operation, and you can do some basic operation on the live view mode for the Aux output.

## 4.1.1 Front panel operation on Live view

### Table 2. Front panel operation in Live view

| Function | Front panel operation |
|---|---|
| Show single screen | Press the corresponding alphanumeric button. For example, press 2 to display only the screen for channel 2. |
| Show multi-screen | Press the **PREV/FOCUS**- button. |
| Manually switch screens | Next screen: right/down direction button. Previous screen: left/up direction button. |
| Auto-switch | Press **Enter** button. |
| Playback | Press **Play** button. |
| Switch between main and aux output | Press **Main/Aux** button. |

## 4.1.2 Using the mouse in Live view

**Table 3. Mouse operation in Live view**

| Name | Description |
|---|---|
| Menu | Enter the main menu of the system by right clicking the mouse. |
| Single Screen | Switch to single full screen by choosing channel number from the drop down list. |
| Multi-screen | Select the screen layout from the drop down list. |
| Previous Screen | Switch to the previous screen. |
| Next Screen | Switch to the next screen. |
| Start/Stop Auto-switch | Enable/disable the auto-switch feature. |
| Start Recording | Start continuous recording or motion detection recording of all channels. |
| Add IP Camera | Enter the IP Camera Management interface to add cameras. |
| Playback | Enter the playback interface and start playing back the video of the selected channel. |
| Output Mode | Select one of four output modes: Standard, Bright, Gentle or Vivid. |
| Aux Monitor | Switch to the auxiliary output mode. The operation for the main output is disabled. |

**NOTE**

- *The dwell time of the live view configuration must be set before using Start Auto-switch.*
- *If you enter Aux monitor mode and the Aux monitor is not connected, the mouse operation is disabled; switch back to the Main output with the MAIN/AUX button on the front panel or remote control.*
- *If the corresponding camera supports intelligent function, the Reboot Intelligence option is included when right-clicking the mouse on this camera.*

## 4.1.3 Using an Auxiliary monitor

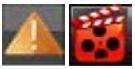
Some features of Live view mode are also available with an Auxiliary monitor. These features include:

- **Single Screen**: Switch to a full screen display with the selected camera. Select the camera from a drop down list.
- **Multi-screen**: Switch between different display layout options. Select the Layout option from a drop down list.
- **Next Screen**: When displaying less than the maximum number of cameras in Live View, clicking this feature will switch to the next set of displays.
- **Playback**: Enter into Playback mode.
- **PTZ**: Enter PTZ Control mode.
- **Main Monitor**: Enter Main operation mode.

**NOTE** *In the live view mode of the main output monitor, the menu operation is not available while Aux output mode is enabled.*

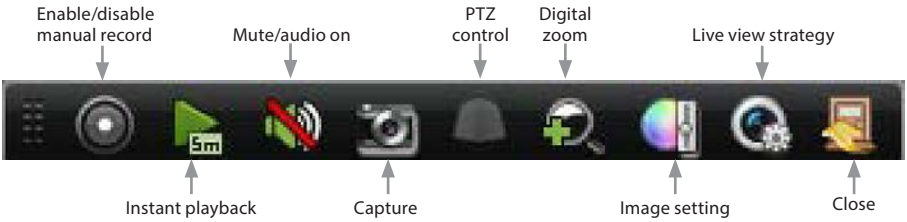
### 4.1.4 Live View Status icons

In the **Live** view mode, icons can appear in the upper-right of the screen for each channel, showing the status of the record and alarm in the channel.

| Icon | Type | Reason |
|---|---|---|
| | **Alarm** | Video loss, video tampering, motion detection or sensor alarm |
| | **Record** | Manual record, schedule record, motion detection or alarm triggered record |
|  | **Record and Alarm** | Both alarm and record status |
| | **Event/Exception** | For the occurrence of motion detection, sensor alarm or exception information. This icon appears at the lower-left corner of the screen. |

## 4.2 Quick Setting Toolbar

Left-clicking the mouse on a viewing frame opens a Quick Setting Toolbar at the top or bottom of the frame.




**Instant Playback**: Plays what was recorded in the previous five minutes. Nothing is played if a recording was not made at that time.

**PTZ Control**: This icon is dark if PTZ control is not supported.

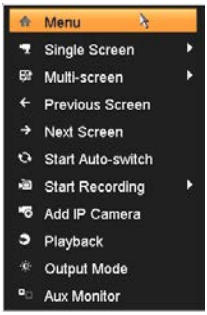
**Digital Zoom**: Shows the selected portion of the camera image in full-screen mode. To select an area, left-click and drag to form a rectangle across the area to expand. See the figure below.

**Image Settings**: Click this icon to open menus for creating customized setting for the brightness, contrast, saturation and hue of the camera image. After making an adjustment on in this menu, the NVR will respond within a few seconds. Click **OK** when your adjustments are complete.

**Live View Strategy**: Use this feature to select Real-time, Balanced, Fluency. These features can improve the display of the camera channels.

## 4.3 Live View pop-up menu

Right-clicking the mouse on the desktop opens the pop-up window shown below.




Clicking one of the items listed produces the result described below.

- **Menu**: Opens the configuration menu window. See "SECTION 6 Record, Playback and Video Backup" on page 73.
- **Single Screen**: showing only one camera channel on the monitor. Open the drop-down list to select the camera channel you want to view.
- **Multi-screen:** opens a submenu where you can choose from several multi-channel screen configurations, including **2 * 2**, **1 + 5**, **1 + 7**, **3 * 3** , **4 * 4** in multi-screen mode, you can view video from multiple camera channels simultaneously.
- **Previous screen**: Move to the screen displayed previously.
- **Next screen**: Move to the screen displayed after the current one.
- **Start Auto-switch**: the screen is automatically switched from one camera channel to the next. You must set the dwell time before enabling auto-switch. Go to **Menu | Configuration | Live View | Dwell Time**.
- **Start Recording**: Select Normal Record and Motion Detection record from the drop-down list.
- Add IP Camera:
- **Playback**: Opens a playback menu where you can playback video recorded at a specific time of the day.
- **Output Mode**: opens a menu where you can select the output mode to Standard, Bright, Gentle or Vivid.
- **Aux Monitor**: Switch to auxiliary output mode. The main output will be disabled.

### 4.3.1 Live View settings

Live View settings can be customized according to differing needs. You can configure the screen frame split, placement of camera channels on the screen, dwell time for screen to be shown, mute or turning on the audio, the screen number for each channel, etc.

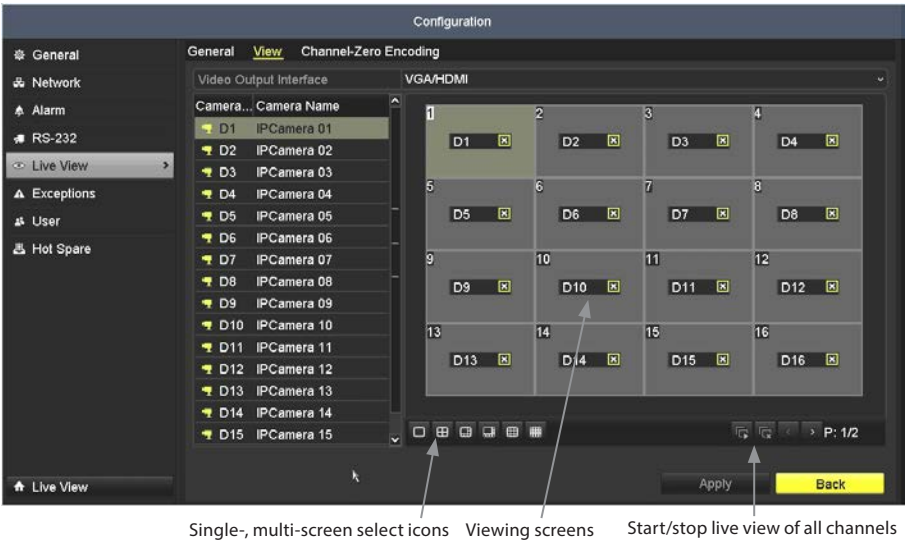
1. Open the Live View Settings menu. Go to **Menu | Configuration | Live View**

Adjust the settings in the screen as needed:

- **Video Output Interface**: Designates the output to configure the settings for. Option includes only VGA/HDMI.
- **Live View Mode**: Designates the display mode (screen split) to be used for Live View. **1 * 1** is a single camera view. Other options are **2 * 2**, **1 + 5**, **1 + 7**, **3 * 3**, **4 * 4**
- **Dwell Time**: The time in seconds to dwell between switching channels when auto-switch is enabled in Live View.
- **Enable Audio Output**: Enables/disables audio output for the selected video output.
- **Event Output**: Designates the output to show event video. Option includes only VGA/HDMI.
- **Full Screen Monitoring Dwell Time**: The time in seconds to show alarm event screen.

2. After changing settings in the screen shown above, click **Apply**, and then click **Back**.

3. Click the **View** tab at the top of the screen.



4. Click the single- or multi-screen select icon for the screen split you prefer. In the example shown above, a 4 * 4 screen is selected.

5. Click a viewing screens, then double-click the camera in the list on the left that you what to show there. When the selection is made, label in the viewing screen changes to the camera channel number. You can also click an icon to Start or Stop Live view of all channels.

6. Click the **Apply** button to save your setting.

## 4.4 Channel-Zero Encoding

The Channel-Zero Encoding menu is used to configure the NVR for viewing multiple video channels simultaneously with a remote client. This features allows you to decrease the bandwidth requirement without affecting the image quality. To use Channel-Zero Encoding:

1. Open the **Channel-Zero Encoding** menu. Go to **Menu | Configuration | Live View | Channel-Zero Encoding**

2. Check the box to **Enable Channel Zero Encoding**.

3. Configure the **Frame Rate**, **Max. Bitrate Mode** and **Max. Bitrate** as needed.

4. Click **Apply**.

After setting Channel-Zero Encoding, you can see up to 16 channels of live video on one screen of the remote client.

# SECTION 5
# PTZ Controls

## 5.1 Configuring PTZ settings

Follow the procedure to set the parameters for control of a PTZ camera installed in the system. Setup of the PTZ parameters should be done before you control the PTZ camera. This feature is only supported for PTZ capable cameras in the compatible cameras list. See "APPENDIX D NVR Compatible Cameras" on page 168.

Check that the PTZ and the NVR are connected properly through RS-485 interface.

1. Open the PTZ menu. Go to: **Menu | Camera | PTZ**

2. Choose the camera for PTZ setting in the Camera drop down list.
3. Enter the parameters of the PTZ camera. All the parameters should be exactly the same as the PTZ camera parameters.
4. Click **Apply** to save the settings.

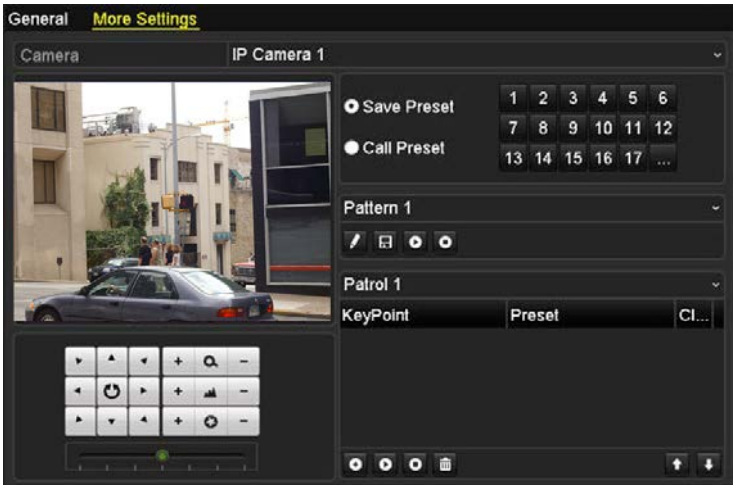
## 5.2 Setting PTZ presets, patrols and patterns

**NOTE** *The presets, patrols and patterns you configure must be supported by the PTZ protocols.*

### 5.2.1 Customizing Presets

Follow the steps to set the Preset location which you want the PTZ camera to point to when an event takes place.

1. Open the PTZ settings menu. Go to: **Menu | Camera | PTZ | More Settings**




2. Use the directional button to point the camera at the position where you want to create a preset.

3. Click the round icon ot the left of **Save Preset** to select it.

4. Click a preset number to assign to and save as the preset.

5. Repeat the steps 2-4 to create more presets. If the number of the presets you want to save is more than 17, you can click [. . .] and choose the available numbers.

## 5.2.2 Calling Presets

After creating a preset, you can quickly move the camera to that position by "calling" that preset. Use the PTZ More Settings inter face to call a preset.

1. Open the PTZ settings menu. Go to: **Menu | Camera | PTZ | More Settings**

2. Click the round icon ot the left of **Call Preset** to select it.

3. Click the preset number you want to call.

### Call preset in live view mode:

1. Click the button PTZ in the lower-right corner of the PTZ setting interface, press the PTZ button on the front panel, or click the PTZ Control icon in the quick setting bar to enter the PTZ setting menu in live view mode.

2. In the **Configuration** section, choose the PTZ camera you want to use.

3. Click **Preset**, then double click the preset number in the list to call it.

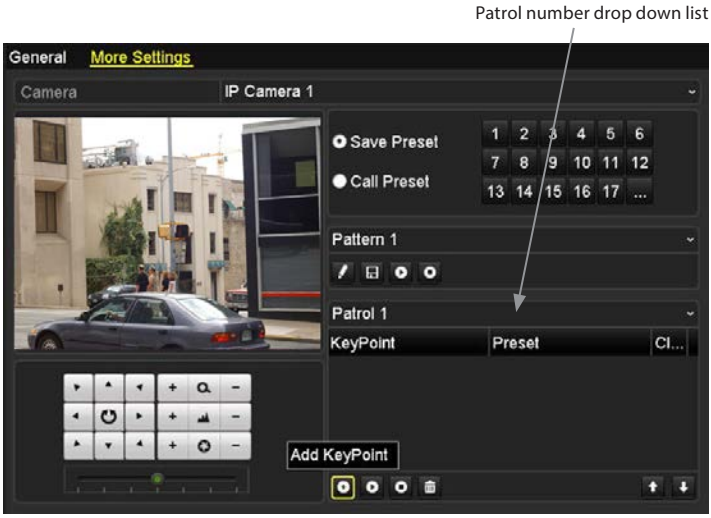
## 5.2.3 Customizing Patrols

Patrols can be set to position a PTZ camera to a KeyPoint (Preset number) and hold it there there for a set duration (dwell) before moving on to another KeyPoint (Preset number). To create Preset positions for the camera, see "5.2.1 Customizing Presets" on page 65 .

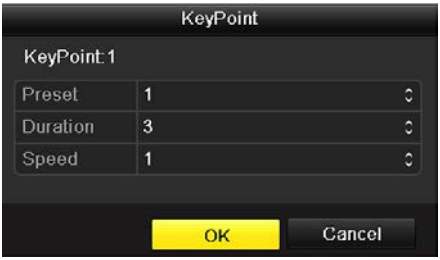
1. Open the PTZ settings menu. Go to: **Menu | Camera | PTZ | More Settings**

2. Select a Patrol number in the drop-down list of patrol.

3. Select the icon under Patrol option box to add KeyPoints to the patrol.

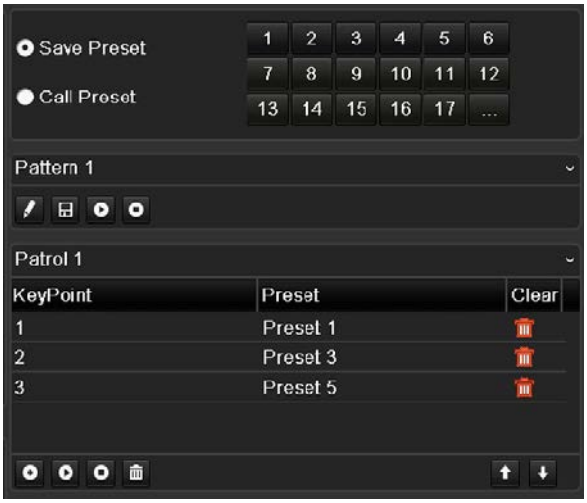



4. Configure KeyPoint parameters, such as the KeyPoint number, duration (seconds) of staying at one KeyPoint, and speed of patrol. The KeyPoint is corresponding to the preset. The KeyPoint number indicates the step in the patrol the PTZ camera will cycling through. **Duration** refers to the time span to stay at the corresponding key point. **Speed** defines the speed at which the PTZ will move from one KeyPoint to the next.




5. Click **OK** to save the KeyPoint to the patrol.

6. Repeat the above steps to add more KeyPoints. You can also delete all the key points by clicking the trash icon . Select a KeyPoint, then click or button to adjust the order of the KeyPoints.




## 5.2.4 Calling Patrols

Calling a patrol makes the PTZ to move according the predefined patrol path. Calling patrol in the PTZ setting interface:

1. Open the PTZ settings menu. Go to: **Menu | Camera | PTZ | More Settings**
2. Select the Patrol number, and then click to start (call) the patrol.
3. Click to stop the patrol.

### Calling patrol in live view mode

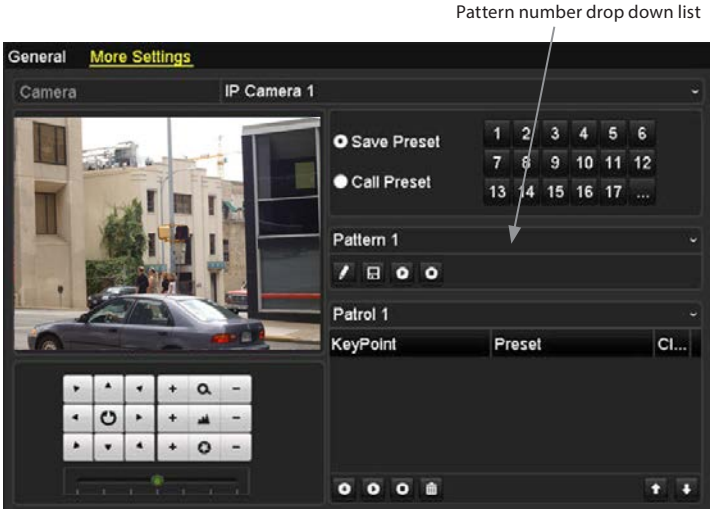
1. Click the PTZ button in the lower-right corner of the PTZ setting interface, press the PTZ button on the front panel, or click the PTZ Control icon in the Quick Setting bar to enter the PTZ setting menu in live view mode.
2. Choose **Patrol** on the control bar.
3. Double click the patrol number, or select the patrol and click the associated icon to start it.

## 5.2.5 Customizing Patterns

Patterns can be set by recording the movement of the PTZ. You can call the pattern to make the PTZ movement according to the predefined path.

1. Open the PTZ settings menu. Go to: **Menu | Camera | PTZ | More Settings**

2. Choose pattern number in the option box.



3. Click , then use the mouse to drag the image, or click the eight directional buttons in the control box under the image, to move the PTZ camera. The movement of the camera will be recorded as the pattern.

4. Click to save the pattern.

### 5.2.6 Calling Patterns

Follow the procedure to move the PTZ camera according to the predefined patterns. The pattern in in the PTZ Setting interface

1. Open the PTZ settings menu. Go to: **Menu | Camera | PTZ | More Settings**

2. Select the number of the pattern you want to call.

3. Click to start the pattern. Click to stop it.

#### Call pattern in live view mode

1. Click the PTZ button in the lower-right corner of the PTZ setting interface, press the PTZ button on the front panel,

   or click the PTZ Control icon in the Quick Setting bar to enter the PTZ setting menu in live view mode.

2. Choose **Pattern** on the control bar.

3. Double click the pattern number, or select the pattern and click the associated icon to start it.

## 5.3 PTZ Control Panel

To enter the PTZ control panel, do one of the following:

- In the **PTZ Settings** interface, click the **PTZ** button on the lower-right corner. It is next to the **Back** button.
- In the **Live View** mode, press the **PTZ Control** button on the front panel or on the remote control, or choose the PTZ Control

  icon on the Quick Settings toolbar .

Click the **Configuration** button on the control panel, and you can enter the PTZ Settings interface.

**NOTE** *In PTZ control mode, the PTZ panel will be displayed when a mouse is connected with the device. If no mouse is connected, the* **PTZ** *icon appears in the lower-left corner of the window, indicating that this camera is in PTZ control mode.*

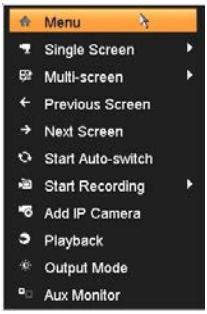
| Icon | Description | Icon | Description | Icon | Description |
|---|---|---|---|---|---|
| | Direction button and the auto-cycle button | + | Zoom+, Focus+, Iris+ | − | Zoom-, Focus-, Iris- |
| | The speed of the PTZ movement | | Light on/off | | Wiper on/off |
| | 3D-Zoom | | Image Centralization | Preset | Preset |
| Patrol | Patrol | Pattern | Pattern | | Menu |
| | Previous item | | Next item | | Start pattern/patrol |
| | Stop the patrol or pattern movement | | Minimize windows | | Exit |

*PTZ control panel icons*

# SECTION 6
# Record, Playback and Video Backup

After the initial setup of your NVR using the Wizard, the Menus interface enables you to refine your configuration settings and expand the functionality of the system. To use most menus, the user must log into the NVR system, either locally or remotely, with administrative privileges.

To open the Menu system from the Live View screen, right click anywhere in the screen, then select **Menu**.




After selecting **Menu**, a login window will open. In the Login window, select a User Name with administrative privileges, enter its password, then click **OK**. A window of Menu icons will open. **NOTE**: When the system option **Enable ID Authentication** is disabled (see the **Configuration** - **General** settings submenu), the Login window to open the Menu does not appear.

# 6.1 Configuring record settings

## 6.1.1 Setting camera parameters

1. Enter the **Record** settings interface to configure the encoding parameters. Go to **Menu | Record | Parameters**.

2. Select the **Record** tab page you want to configure. You can configure the stream type, the resolution, and other parameters.
   - **Pre-record**: The length of time you set to record before the scheduled time or event. For example, when an alarm triggered the recording at 10:00, if you set the pre-record time as 5 seconds, the camera records it at 9:59:55.
   - **Post-record**: The length of time you set to record after the event or the scheduled time. For example, when an alarm triggered the recording ends at 11:00, if you set the post-record time as 5 seconds, it records till 11:00:05.
   - **Expired Time**: The expired time is the longest time a recording is kept on the HDD. If the deadline is reached, the file will be deleted. If you set the expired time to 0, the file will not be deleted. This parameter is usually determined in consideration of the capacity of the HDD.
   - **Redundant Record/ Capture**: Enabling redundant record or capture saves the record and captured picture in the redundant HDD.
   - **Record Audio:** Check the checkbox to enable audio recording.
   - **Video Stream**: Main stream and sub-stream are selectable for recording. When you select sub-stream, you can record for a longer time with the same storage space.

3. Click **Apply** to save your new configuration settings.

4. Open the **Sub-stream** tab page.

a. Configure the parameters of the camera.

b. Click **Apply** to save the settings.

### Capture parameters

5. Open the **Capture** tab.

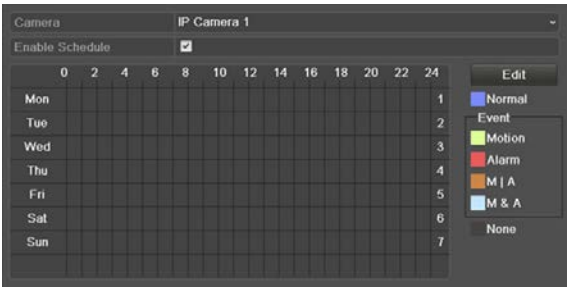
6. Configure the Capture parameters. **NOTE**: The interval is the time period between two capturing actions. You can configure all the parameters on this menu on your demand.

7. Click **Apply** to save the settings.

## 6.1.2 Configuring Record schedule

The record schedule can be used to automatically start and stops recording at preset times.

1. Open the Record Schedule menu. Go to **Menu | Record | Schedule**



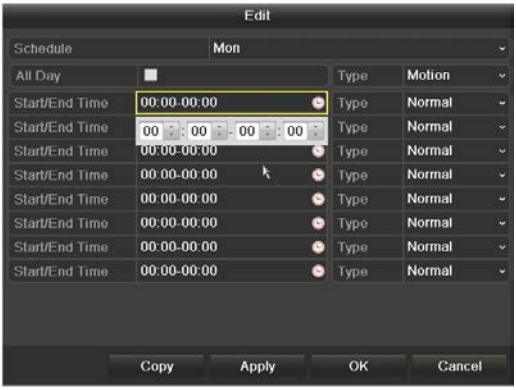

2. To configure the Record schedule:

   a. Open the **Camera** drop-down list to select the camera you want to configure.

   b. Check the **Enable Schedule** box.

   c. Click **Edit**, or use the graphical method to apply recording modes to hours of the day.

      i. If you clicked the **Edit** button, a record schedule list opens.



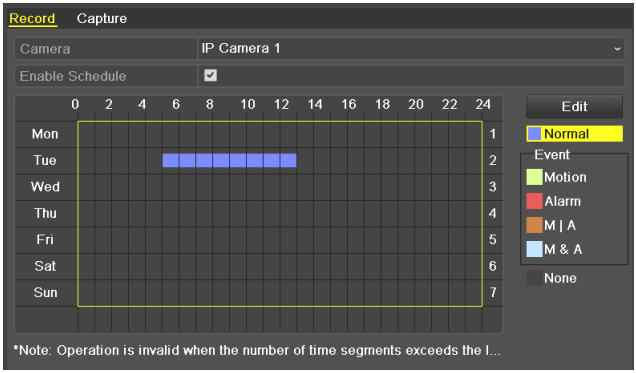

   — Open the **Schedule** line drop down list and select the day you want to create a record schedule for.
   — To schedule all-day recording, check the checkbox after the All Day item. To setup specific start and end times, click the clock icon to open a time setting popup window.
   — In the **Type** column, select the type of recording trigger you want to use. "Normal" recording is continuous recording. "Motion" recording is recording triggered by some kind of motion detected in the video image. Alarm recording is not supported.
   — Click **Apply** to save your settings.

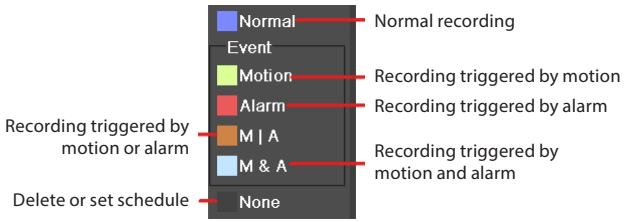
**NOTE** You can define up to eight recording time periods for each day, each with a specified recording type. Recording time periods cannot overlap with each other. Each recording period can use either **Normal** or **Motion** triggered recording.

— Repeat the steps above to schedule recording for other days of the week. If the same schedule can also be applied to other days, click **Copy** (see the window below), select the days you want to copy the schedule to, then click **OK**.

ii. To use the **graphical method** to draw the schedule:

— Click the color icons on the right for the recording mode, then drag the mouse pointer across the area of the chart (day of the week, hours of the day) where you want to use that type of recording. Blocks on the chart, each representing 1 hour of one day, will be colored for the recording mode you selected. A descriptions of the color icons are shown in the figure below.






**NOTE** *Alarm triggered recording is available for only some cameras models supported by the Alibi NVR. Consult your vendor support organization for more information.*

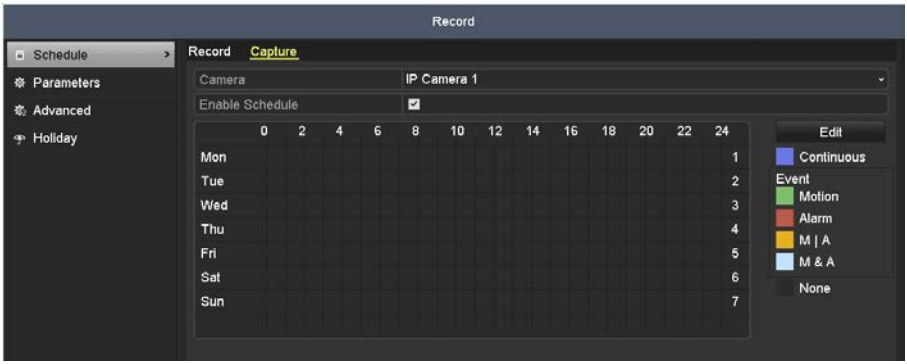
— Click **Apply** to validate the settings.

3. If the settings can be applied to other camera channels, click **Copy**.

4. In the **Copy** menu, click the channels you to which you want to copy the schedule to, then click **OK**.

## 6.1.3 Configuring Capture schedule

1. Open the Capture Schedule menu. Go to **Menu | Record | Schedule | Capture**



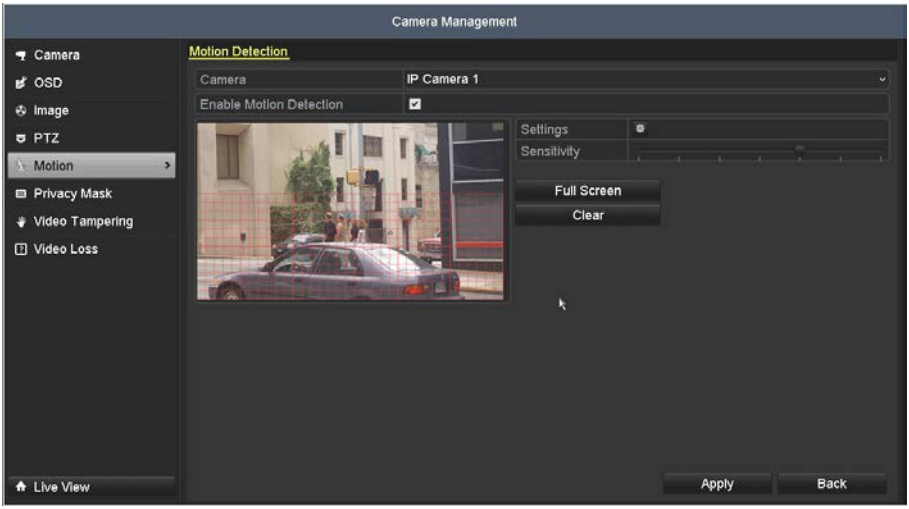

2. Configure the **Capture** schedule as you configured the **Record** schedule. Refer to "6.1.2 Configuring Record schedule" on page 75.

3. Click **Apply** to save the configuration.

## 6.1.4 Configuring Motion Detection Recording

Follow the steps to set the motion detection parameters. A motion detection events can trigger several kind of actions by the NVR, including channels to start recording, full screen monitoring, an audio warning, notification sent to the surveillance center, etc. Follow the steps below to schedule a recording triggered by a motion detection.

1. Open the Motion Detection menu. Go to **Menu | Camera | Motion**




2. To configure Motion Detection:

   a. Choose camera you want to configure.

   b. Check the **Enable Motion Detection** box.

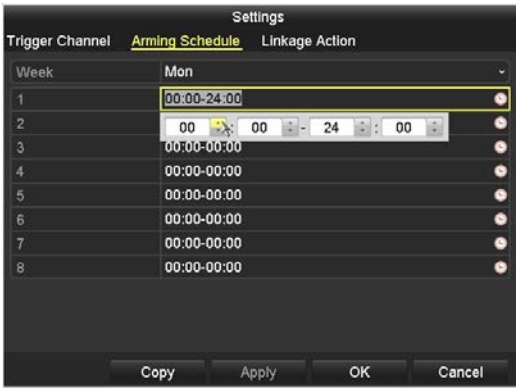
   c. Use the mouse to drag a rectangle across the area where you want to detect motion. A red grid will appear in the area(s) selected. If you want to sense for motion detection in all areas of the video, click **Full Screen**.
   **NOTE**: The example shown here is for a 3S Vision camera. Other camera brands and models have different methods for designating the motion detection areas.

      To deselect an area selected for motion detection, drag a rectangle across that area. To clear all areas selected, click **Clear**.

   d. Click **Settings** to open the **Settings Trigger Channel** tab window.

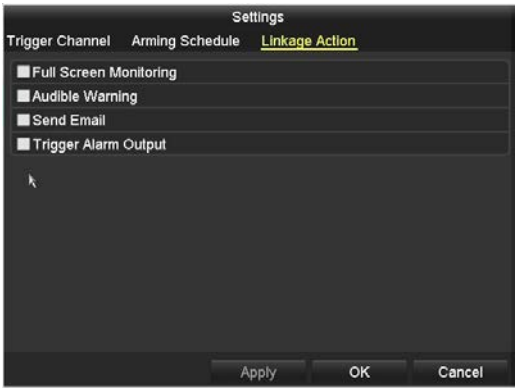
e. In the **Trigger Channel** window, select the other channels that should trigger recording on this channel, then click **Apply** to save your settings.

f. Click the **Arming Schedule** tab. With the Arming Schedule, you can define a schedule for each day of eight weeks (56 days) when motion detection is monitored. Time periods cannot overlap.




g. Click **Apply** to save the settings. You can also click Copy to copy the Arming Schedule setup in the window to other days of the week.

h. Click the **Linkage Action** tab. In the Handling tab, you can cause certain actions to occur when motion triggered recording occurs.



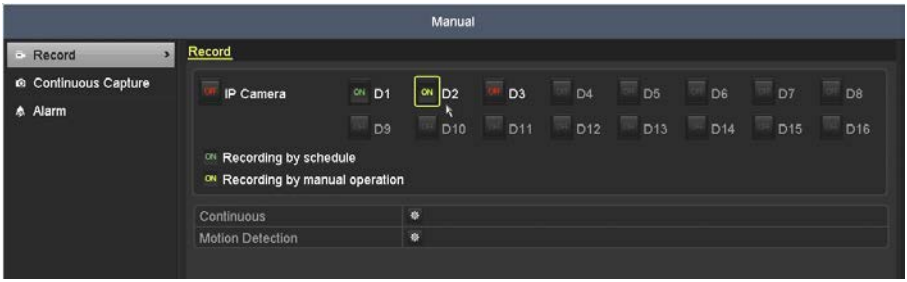

i. Select the actions you want to occur, then click **Apply** to save your settings, and OK to return to the Motion Detection menu.

**NOTE** *Test your settings during broad conditions to ensure that motion in the field of view triggers an action. You may need to return to this menu later to adjust the **Sensitivity** slider to ensure it is working adequately.*

## 6.1.5 Manual record

Follow the steps below to begin manual recording. Manual recording, once initiated, requires a manual cancel of the record. The manual recording can occur prior to the scheduled recording.

1. Open the Manual settings menu. Go to **Menu | Manual**.




2. To enable Manual Record:

   a. Select **Record** on the left menu frame.

   b. Click the status button before camera number to change the label from **OFF** to **ON**, if necessary. See the example above.

c. Click the icon after **Normal** or **Motion Detection**.

d. When the Attention window opens, click **Yes**.

3. To disable Manual Record:

a. Select **Record** on the left menu frame.

b. Click the status button before camera number to change the label from ON to OFF.

c. Click the icon after **Norman** or **Motion Detection**.

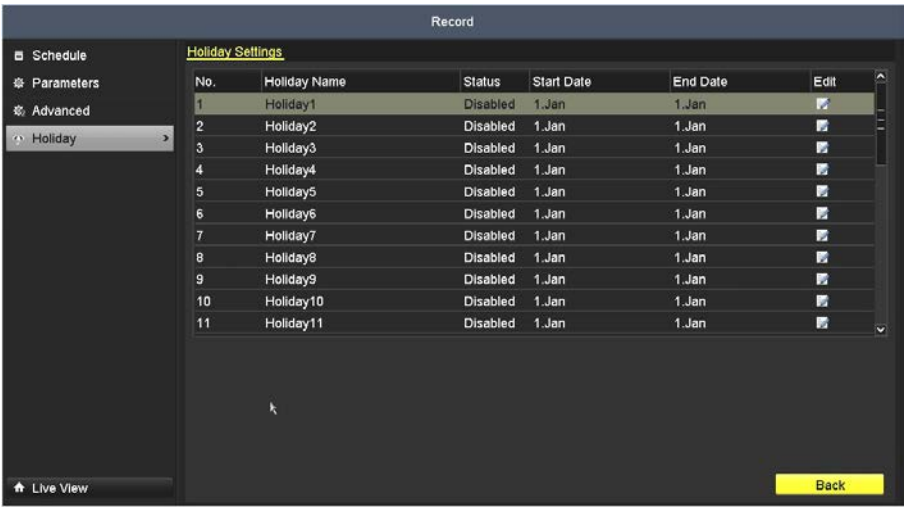
d. When the Attention window opens, click **No**.

**NOTE** *Green "**ON**" icon means that the channel is configured with a record schedule.*
*If the NVR is rebooted, manual record operations are canceled.*

## 6.1.6 Configuring Holiday recording

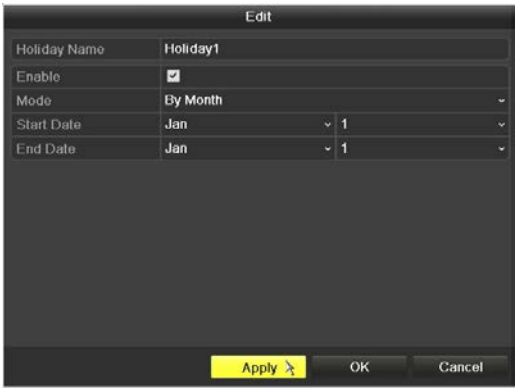
Follow the steps below to configure the record schedule on holiday for that year. You may want to have different plan for recording on holidays.

1. Enter the Record setting interface. Go to **Menu | Record | Holiday**




2. To Edit the Holiday schedule.

   a. Click the icon in the Edit (right) column of the line you want to edit. The **Edit** window will open.




   b. In the **Edit** menu, check the **Enable** box.

   c. Select Mode from the drop-down list to select the duration. There are three different modes for the date format to configure holiday schedule: Date, Week, and Month.

   d. Set the start and end dates.

e. Click **Apply** to save settings.

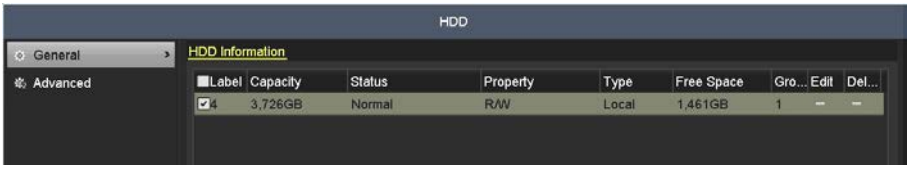
f. Click **OK** to exit the Edit menu.

3. Open the Record Schedule settings menu to edit the holiday recording schedule. See "5.1.2 Configuring Record schedule" on page 57.

## 6.1.7 Configuring HDD Group for Recording

You can group the HDDs and save the record files in a specific HDD group. You must have multiple HDDs installed in the system to perform this configuration.

1. Open the HDD menu. Go to **Menu | HDD**




2. Click **Advanced** in the left frame to open the **Storage Mode** menu.

3. In the **Storage Mode** menu, open the **Mode** drop down list, then select **Group**.

4. Verify that the HDD mode is Group. If not, set it to Group, then click **Apply** and follow the on-screen instructions to reboot the NVR. See Return to the **HDD** menu.

5. Click **General** in the left frame.

6. Click the icon in the Edit column for the HDD to open the editing menu. To select the HDD group:

   a. Choose a group number for the HDD group.

   b. Select the channels you want to save in this group.

c. Click **Apply** and then in the pop-up message box, click **Yes** to save your settings.

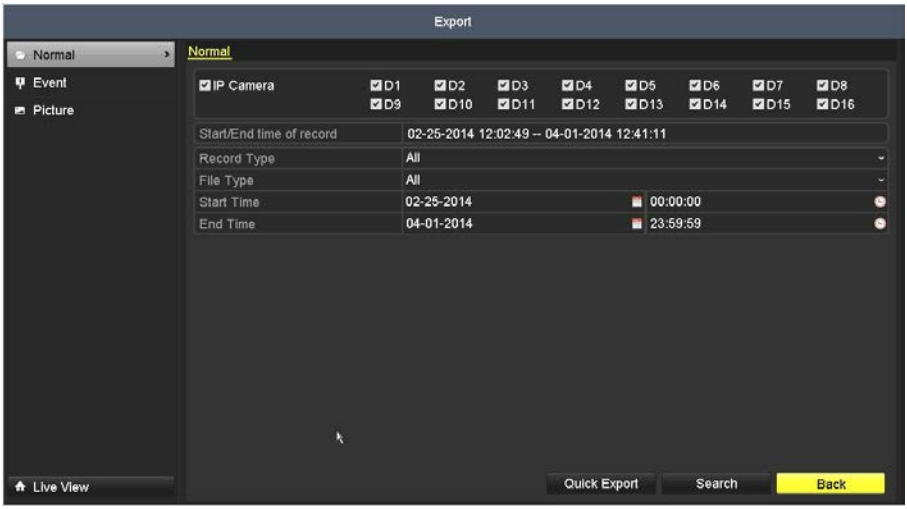
d. Click **OK** to go to the menu window.

7. Repeat the steps above to configure more HDD groups.

## 6.1.8 Files Protection

You can lock the recorded files or set the HDD property to Read-only to protect the record files from being overwritten.

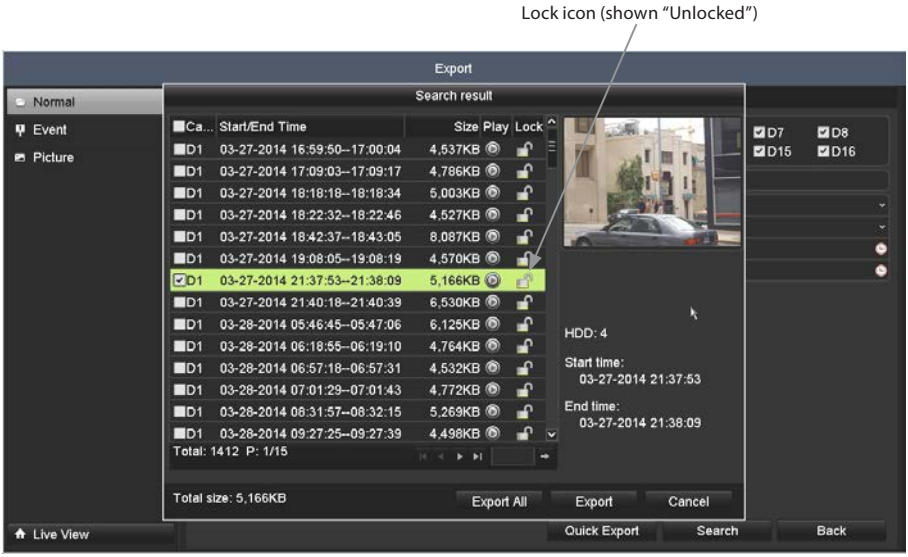
1. Open the **Export** menu. Go to **Menu | Export**




2. Check the box(es) for the channel(s) you want to investigate.

3. Configure the record type, File Type (locked or unlocked), and Start Time and End Time.

4. Click **Search** to show the results.




5. To protect the record files:

   a. Determine which files you want to protect, and then click the icon in the Lock column to show a "locked" padlock (indicating that the file is locked). Similarly, unlock files by clicking on the "locked" icon to show an "unlocked" padlock.

   b. Respond appropriately to the **Attention** pop-up window.

**NOTE** *The file of a recording in progress cannot be locked.*

## 6.2 Playback

### 6.2.1 Instant playback by channel

Playback the recorded video files of a specific channel in the live view mode. Channel switch is supported.

### Instant playback by channel

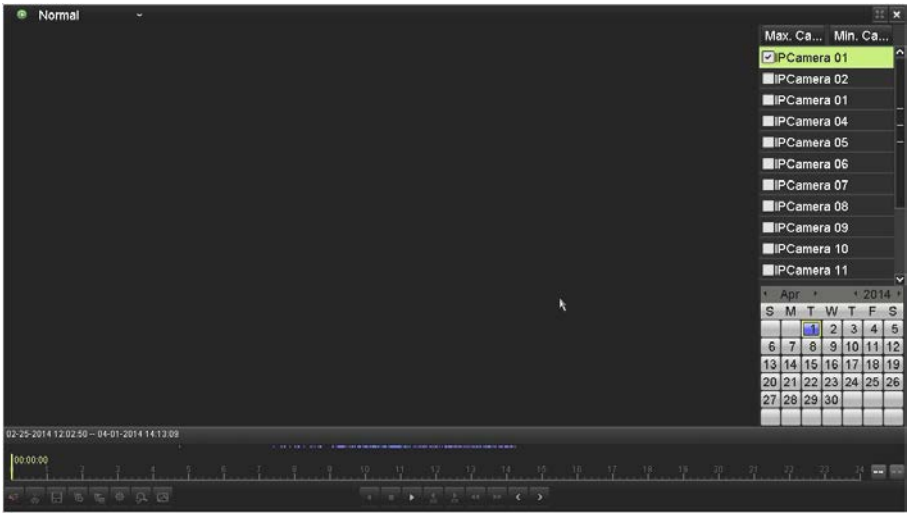
In Live View mode, click the channel you want to playback, then click the playback icon on the Quick Setting toolbar. In the instant playback mode, only recordings made during the previous five minutes on the channel are played.

## 6.2.2 Playing back video by channel

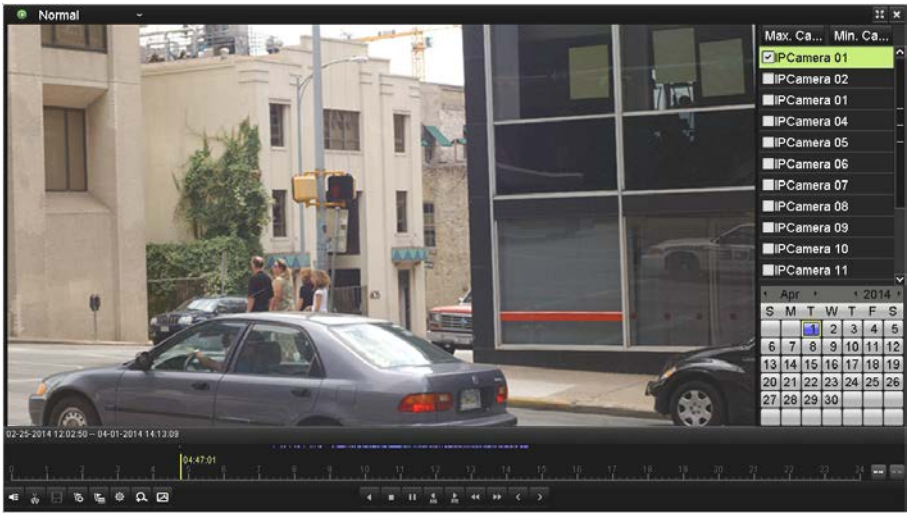
1. Open the Playback menu. Go to **Menu | Playback**. You can also open single channel playback mode by viewing a single channel in Live view mode, then pressing the **Play** button on the front panel.

2. In the **Playback** screen, check the box for the camera channel(s) you want to playback.

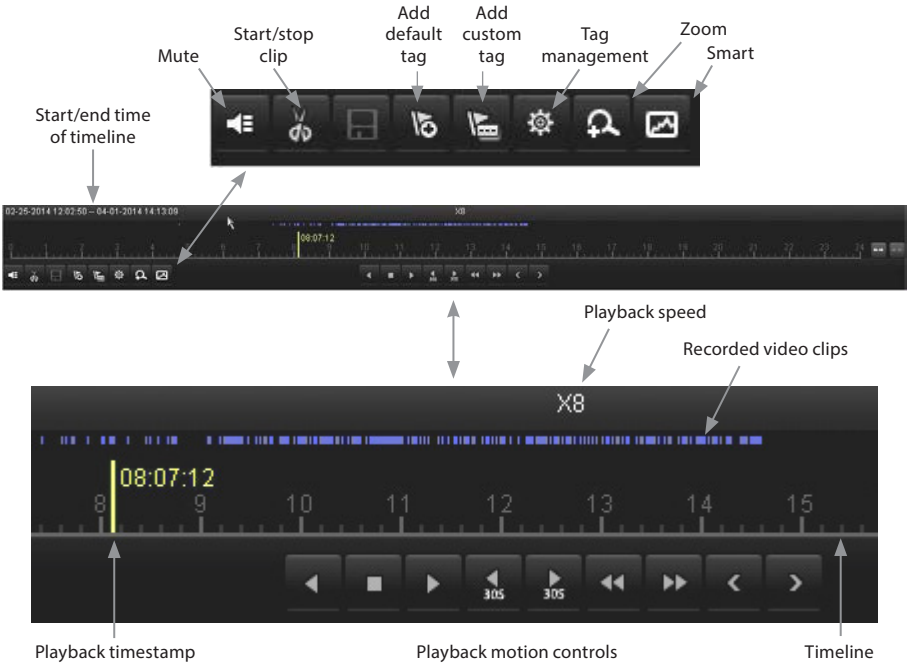
3. In the calendar section, click the day when the video clip you want to play was recorded.




4. To start playback, click the **Play** button ( ▶ ) in the playback controls panel at the bottom of the screen.




Playback controls are shown below.




| Button | Operation | Button | Operation | Button | Operation | Button | Operation |
|---|---|---|---|---|---|---|---|
| | Audio on/ Mute | | Adjust volume | | Start/Stop clipping | | Capture |
| | File lock | | Add default tag | | Add customized tag | | File Management |
| | Digital Zoom | | Pause reverse play/ Reverse play/ Single-frame reverse play | | Stop | | Pause play/ Play/ Single-frame play |
| | 30s forward | | 30s reverse | | Speed down | | Speed up |
| | Previous day | | Next day | | Scaling up/down the time line | | Process bar |
| | Video type bar | Normal | Playback type / picture | | Full screen | | Exit |

*Playback toolbar icons*

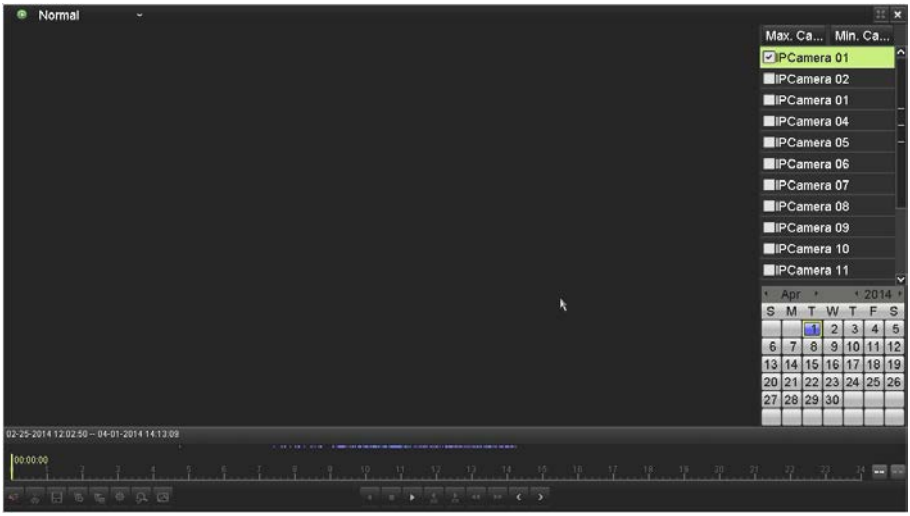
**NOTES**:

- In the "Recorded video clips" markings, blue marks represent Normal recording, red marks indicate event recording (motion, alarm, motion | alarm, motion & alarm, VCA).
- Timeline: Use the mouse to click any point of the timeline bar to locate special frames, and drag the cursor to show the thumbnail of the current time.

## 6.2.3 Playing Back by Time

Play back video files recorded in specified time duration. Multi-channel simultaneous playback and channel switch are supported.

1. Open the Playback interface. Go to **Menu | Playback**




2. Check the box of the channel(s) in the channel list you want to playback, then double-click the date on the calendar to select the day when video was recorded. On the calendar, days when video was recorded for the cameras selected is marked in blue. The day selected is bordered in yellow.

For the definition of icons in the playback toolbar, see "6.2.2 Playing back video by channel" on page 88.

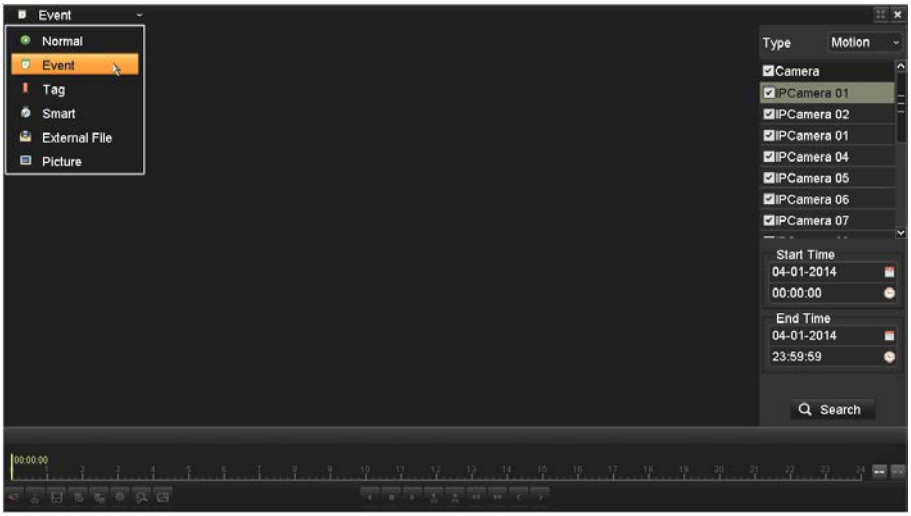
**NOTES**:

- In the "Recorded video clips" markings, blue marks represent Normal recording, red marks indicate event recording (motion, alarm, motion | alarm, motion & alarm, VCA).
- Timeline: Use the mouse to click any point of the timeline bar to locate special frames, and drag the cursor to show the thumbnail of the current time.

## 6.2.4 Playback by Event Search

Play back record files on one or several channels searched out by restricting event type (e.g. alarm input and motion detection).

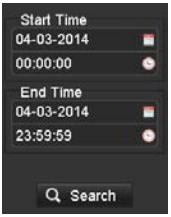
1. Open the **Playback** interface. Go to **Menu | Playback**



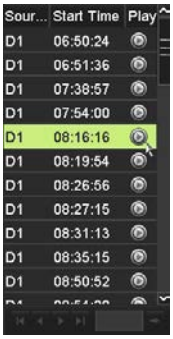

2. Open the drop-down list in the upper-left corner of the screen, then select **Event**.

3. Open the **Type** drop down list (in the upper right corner), then select the kind of event you want to search for. In the example above, only **Alarm Input** and **Motion** type events are available.

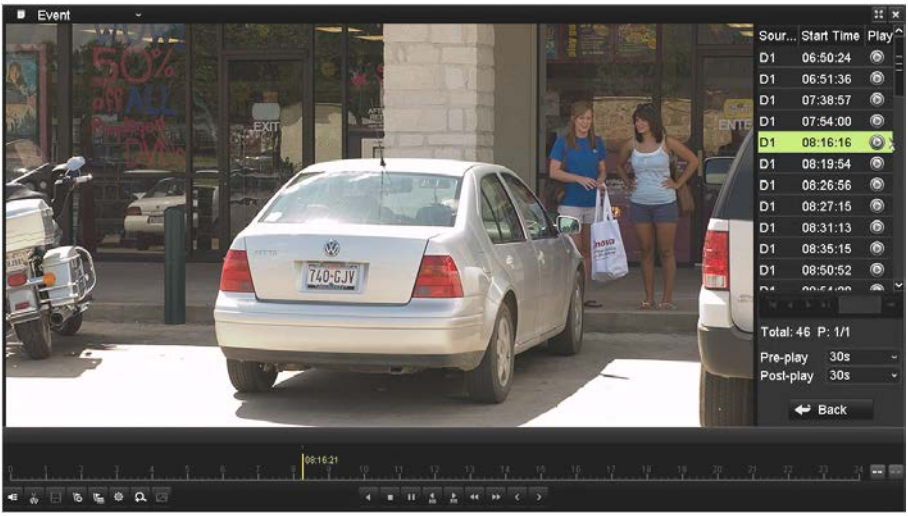
4. On the right side of the screen, click the icons to select the **Start Time** and **End Time** within which the event occurred.




5. Click **Search**. A list of events (channel and time) that occurred during the time frame selected will appear on the right side of the screen.




6. Select an entry in the list (camera channel and the time), then click the **Play** icon in the playback toolbar to show the video associated with the event.




For the definition of icons in the playback toolbar, see "6.2.2 Playing back video by channel" on page 88.

## 6.2.5 Playback by Tag

Video tags provide a convenient way to identify video clips, then find and replay them later. Tags are associated with vido clips during playback using the icons in the lower left corner of the screen.

1. Open the **Playback** interface. Go to **Menu | Playback**

2. Search for and play back the record file(s). See "6.2.2 Playing back video by channel" on page 88 for more information.

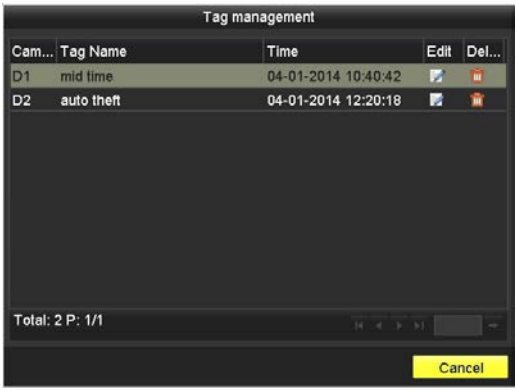
3. Play the file you want to tag.

4. To tag the file, click the icon to add a default tag, or click the icon to add customized tag and input tag name. In the example below, a customized tag is created. Up to 64 tags can be assigned to one video clip.

5. In the pop-up window above, the tag auto theft was keyed in. After entering the tag name, click **Enter**, then click **OK** to close the **Add Tag** window.

## Tag management

6. Click the icon to open the **Tag management** window. In the example below, two tags are shown.



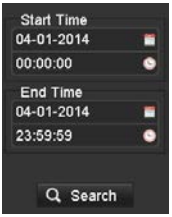

In the **Tag management** window, click the **Edit** icon to edit the **Tag Name**, or click the **Del...** icon to delete it.

## Search for tagged video clips

7. In the Playback interface window, open the drop-down list in the upper-left corner of the screen, then select **Tag**.

8. Select the camera channels that contain tags you want to search for.

9. On the right side of the screen, click the icons to select the **Start Time** and **End Time** within which the event occurred.




10. Click **Search**. A list of events (channel and time) that occurred during the time frame selected will appear on the right side of the screen.

11. Click the Play icon associated with the tag to play the tagged video clip.

In the Playback window, you can change the Pre-play and Post-play values to see more video around the tag.

## 6.2.6 Smart Playback

The smart playback feature provides an easy way bypass less effective information. When you select **Smart** playback mode, the system will analyze the video containing the motion or VCA information, mark it with green color and play it in the normal speed while the video without motion will be played in the 16x speed.

1. Open the **Playback** interface. Go to **Menu | Playback**

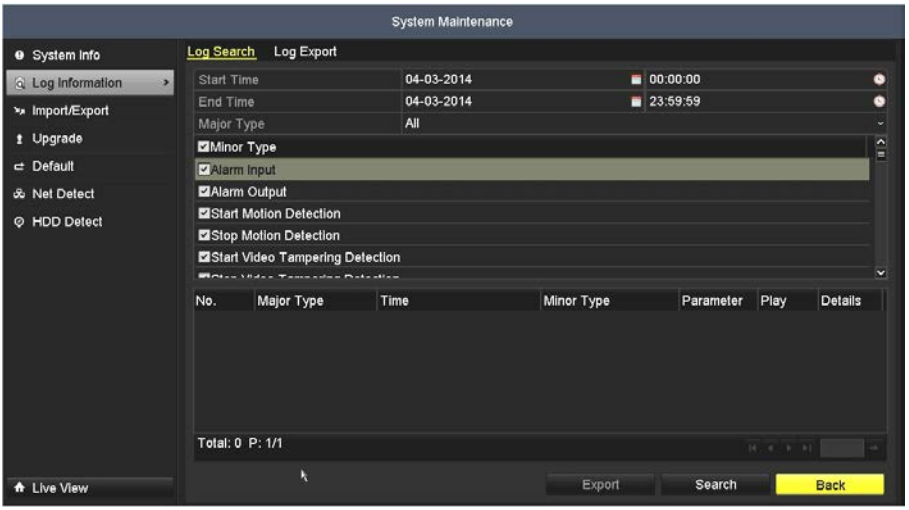
2. Open the drop-down list in the upper-left corner of the screen, then select **Smart**.

3. In the following screen, notice that the playback toolbar contains two marker lines - one in blue indicating when video was recorded across the timeline, and another in green indicating when when motion was detected in the video.

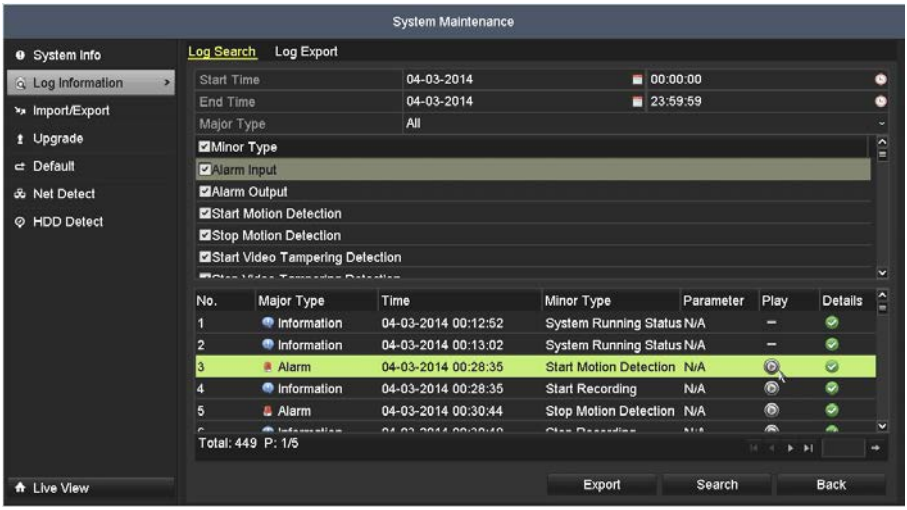
## 6.2.7 Playback using System logs

You can play back record file(s) associated with channels after searching system logs.

1. Open the Log Information menu. Go to **Menu | Maintenance | Log Information**

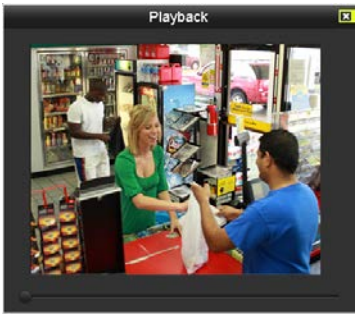


2. Select a Start Time, End Time, Major Type and Minor Type., then click **Search**. In the example below, the search criterion specified are "All" (Major Type) entries.




3. Find the entry in the search results list that is associated with a Play icon. See the example above.

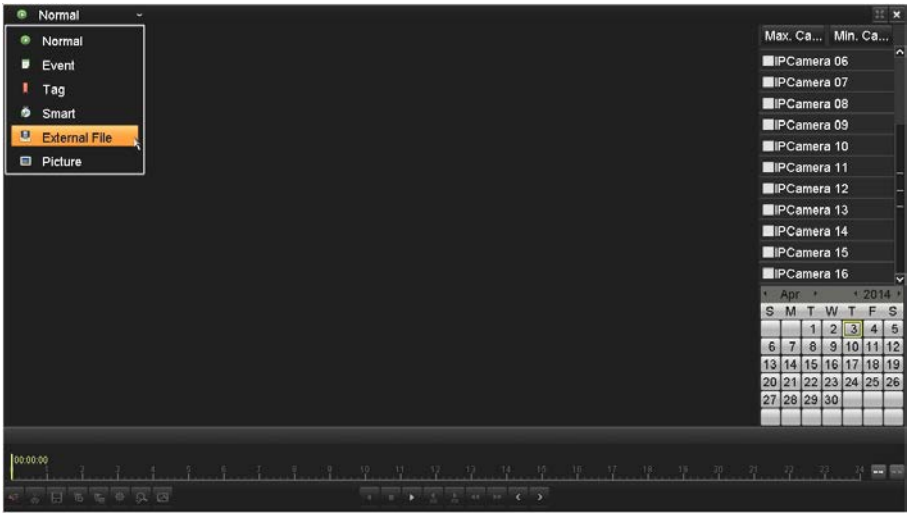
4. Click the **Play** icon to watch the video associated with the event.




## 6.2.8 Playing Back an external file

You can playback a file on an external device, such as a video file saved on a backup disk or flash drive.

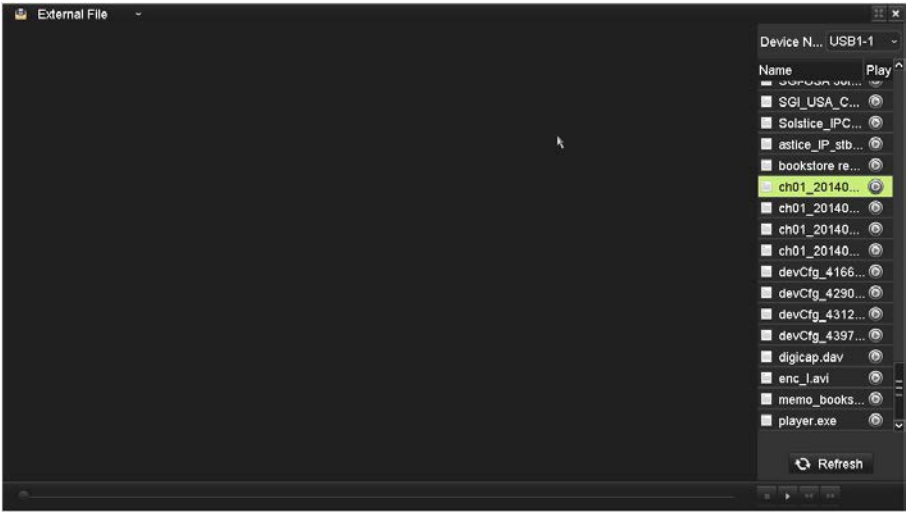
1. Open the **Playback** interface. Go to **Menu | Playback**




2. Open the drop-down list in the upper-left corner of the screen, then select **External file** . See above.

3. Attach the external storage device containing the file to one of the USB ports. If multiple storage devices are connected to USB ports, open the **Device** drop down list in the upper right corner and select the device containing the file.

4. Peruse the list, then highlight the file you want to play. If the file is in a directory on the device, click the icon to the left of the directory name to show the contents of the directory.




5. Click the **Play** icon associated with the file you want to play.

## 6.2.9 Auxiliary Functions - Playback frame by frame

Play video files frame by frame, in case of checking image details of the video when abnormal events happen.

### Using a Mouse

Go to **Menu | Playback**

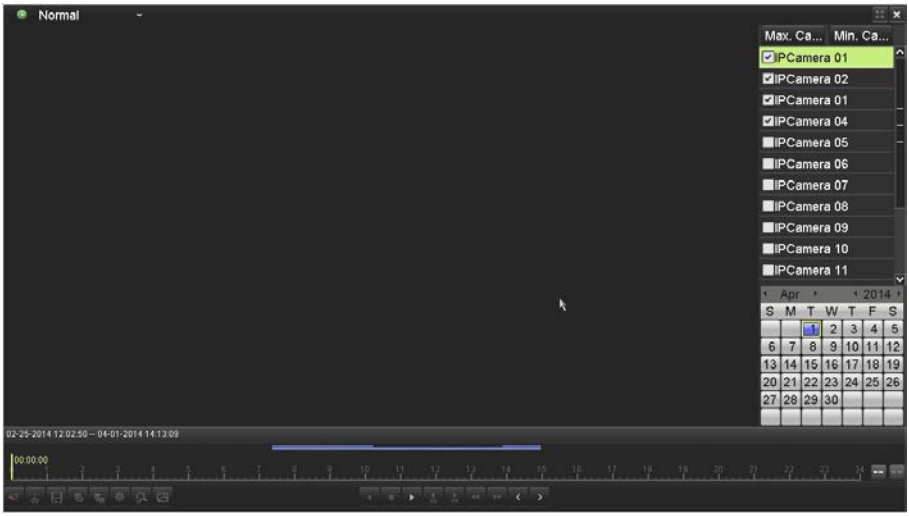
Playback a file. During playback, click the button ◀◀ until the speed changes to **Single**. One click on the playback screen advances playback to the next frame forward. Click ▶▶ to increase the playback speed in forward.

During reverse playback click the button ◀◀ until the speed changes to **Single**. One click on the playback screen advances playback to the next frame in reverse. Click ▶▶ to increase the playback speed in reverse.

## 6.2.10 Auxiliary Functions - Reverse Playback of Multi-channel

You can play back record files of multi-channel reversely. Up to 16-ch (with 1280*720 resolution) simultaneous reverse playback is supported; up to 4-ch (with 1920*1080p resolution) simultaneous reverse playback is supported and up to 1-ch (with 2560*1920 resolution) reverse playback is supported.

1. Open the Playback interface. Go to **Menu | Playback**




2. Check the box of the channel(s) in the channel list you want to playback

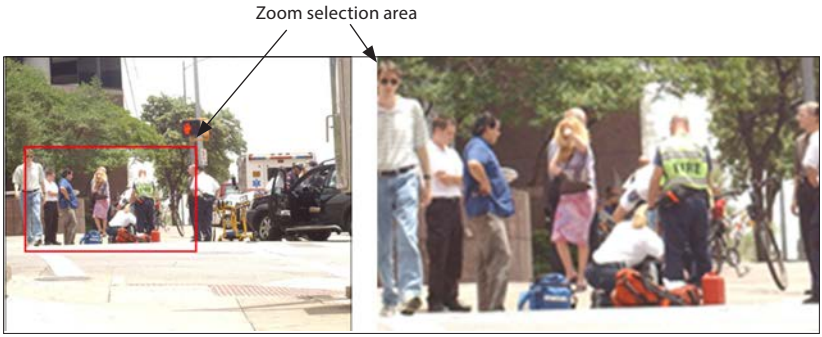
3. Double-click the date on the calendar to select the day when video was recorded. On the calendar, days when video was recorded for the cameras selected is marked in blue. The day selected is bordered in yellow.

For the definition of icons in the playback toolbar, see "6.2.2 Playing back video by channel" on page 88.

## 6.2.11 Digital Zoom

1. Click the magnifier button on the playback control bar to enter Digital Zoom screen.

2. Use the mouse to draw a rectangle over the area you want to zoom in on. The area can be enlarged up to 16 times the original size on the screen.




3. Right-click on the image to exit the digital zoom mode.

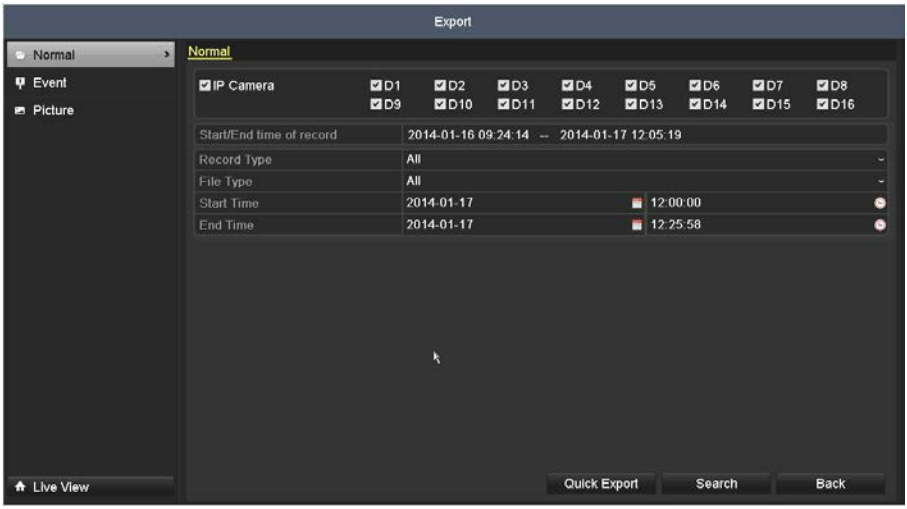
## 6.3 Backing up Record Files - Export

### 6.3.1 Quick Export

The Quick Export feature allows you to easily export (backup to an external device) video clips recorded over a 24 hours period from up to four selected camera channels.

1. Attach an USB storage device, such as a USB flash drive or USB disk drive, to the NVR USB port.

2. Open the Export menu. Go to: **Menu | Export | Normal**




3. Check the boxes for the camera channels you want to back up.

4. Select the **Start Time** and **End Time** of the period when the video clips of interest were recorded. To change the time, click on the field, then select the target date or time from the pop-up menu. The time span cannot exceed 24 hours.

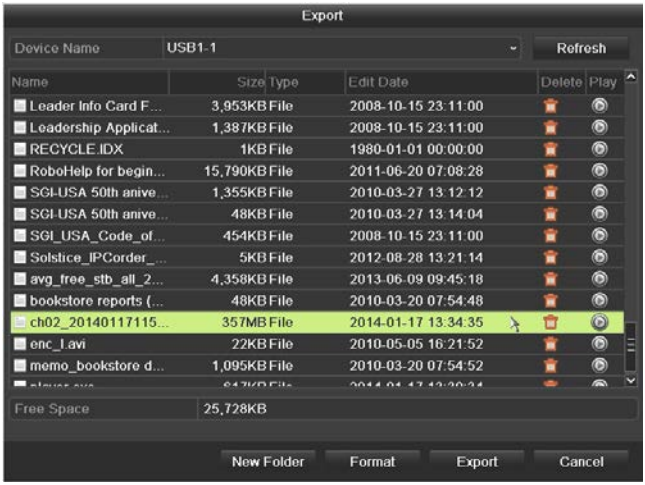
5. Click the **Quick Export** button. A pop-up window will open showing the file structure of your external storage device. f your USB device is not shown in the **Device Name** field, click the **Refresh** button.

6. If the device you are exporting to is a re-writable device such as a USB flash drive, select the directory where you want to copy the files, or create a **New Folder**. **NOTE**: Some USB devices types do not include the **New Folder** and **Format** options, but may include an **Erase** option.

7. Click the **Export** button to start the **Export**. The Export window will list the files that were transferred. Allow the operation to finish before continuing.

8. Check the Export result by playing a file that was exported. In the Export window, click the file you want to play, then click the associated icon in the Play column.

**Note**: The Player utility player.exe will be exported automatically during video file export.

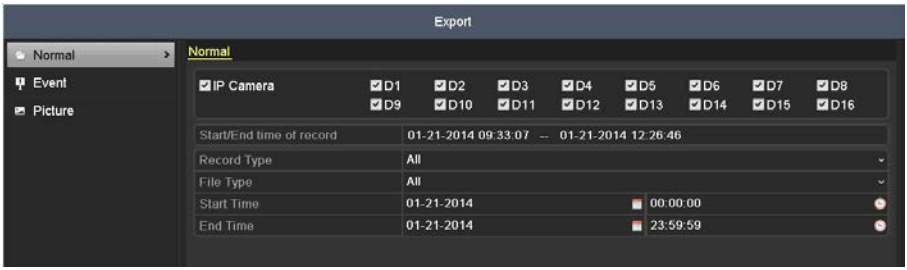



## 6.3.2 Export by video search

The Export by video search feature allows you to export specific video clips. The export operation writes the selected file(s) to an USB device.

1. Attach an USB storage device, such as a USB flash drive or USB disk drive, to the NVR USB port.

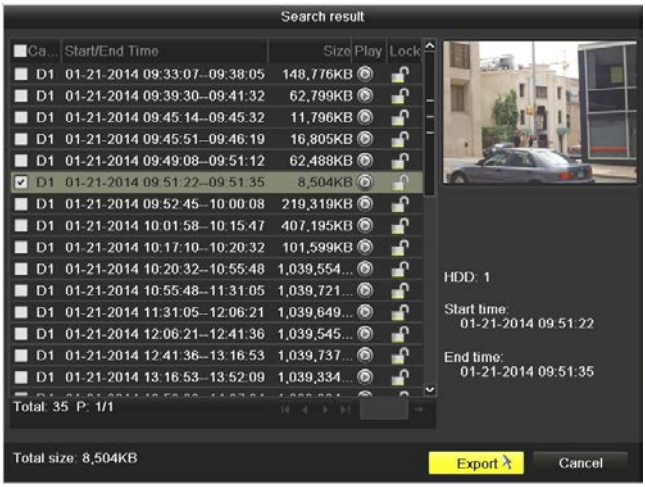
2. Open the Export menu. Go to: **Menu | Export | Normal**




3. Check the boxes for the camera channels you want to back up.

4. Select the **Start Time** and **End Time** of the period when the video clips of interest were recorded. To change the time, click on the field, then select the target date or time from the pop-up menu.

5. Click **Search** to list the video clips recorded during the selected time span. In the **Search Result** list, you can play the video clip by clicking the icon in the Play column associated with the file.



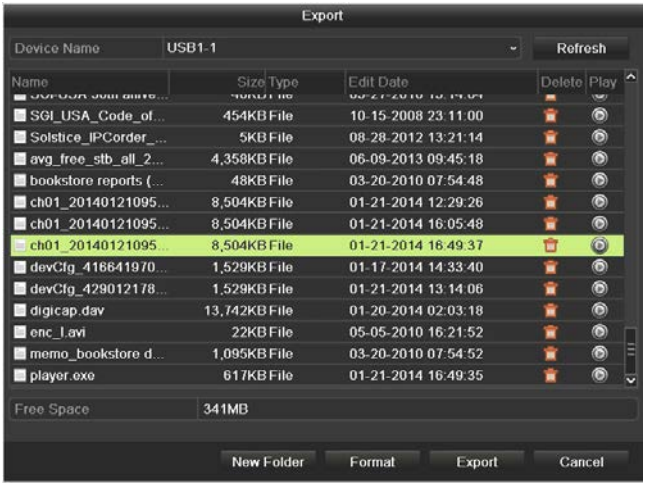

6. Select the video clips you want to export by clicking the checkbox associated with the file. By default, all files are selected. You can deselect all files by clicking the checkbox in the table header, then click the check boxes for only those files you want to export.

7. Click **Export**. A pop-up window will open showing the file structure of your external storage device. If your USB device is not shown in the **Device Name** field, click the **Refresh** button. **NOTE**: Some USB devices types include the **New Folder** and **Format** options, other types include only an **Erase** option.

8. In the **Export** window, select the directory where you want to copy the files, or create a **New Folder**.

9. Click the **Export** button to start the **Export**. The Export window will list the files that were transferred. Allow the process to finish before continuing.

10. Check the Export result by playing a file that was exported. In the Export window, click the file you want to play, then click the associated icon in the Play column.



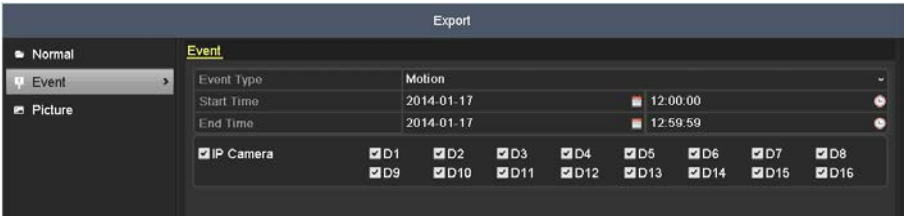

**Note**: The Player utility player.exe will be exported automatically during video file export.

## 6.3.3 Export by Event Search

Video recordings triggered my Events, such as motion detection, can be searched for and exported to a USB storage device such as a USB flash drive or USB disk drive, or USB optical drive.

1. Attach an USB storage device, such as a USB flash drive or USB disk drive, to the NVR USB port.

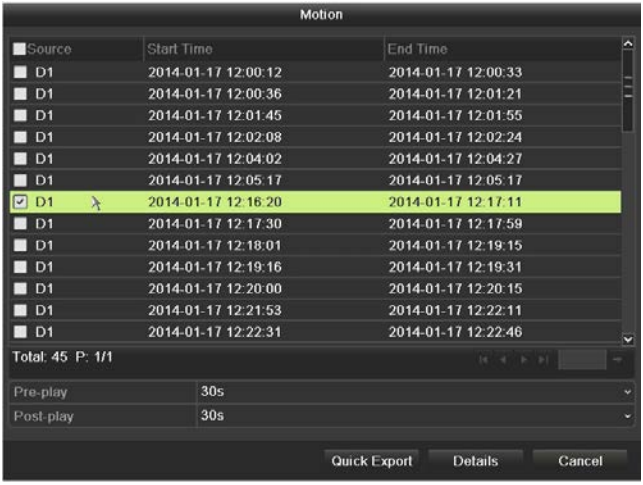
2. Open the Export menu. Go to: **Menu | Export | Event**




3. On the Event Type line, select open the drop down list and select, for example, **Motion**.

4. Select the **Start Time** and **End Time** of the period when the video clips of interest were recorded. To change the time, click on the field, then select the target date or time from the pop-up menu.

5. Click **Search** to list the video clips recorded during the selected time span.




6. To watch a video clip in the **Motion** (search result) list, click (highlight) the clip you want to watch, click **Details**, then in the **Event Details** window, click the icon in the **Play** column of the file.

7. In the **Events Detail** window, click **Export** to open the Export window, or in the **Motion** (search result) list, check the boxes for the video clips you want to export, then click **Quick Export.** A pop-up window will open showing the file structure of your external storage device. If your USB device is not shown in the **Device Name** field, click the **Refresh** button. **NOTE**: Some USB devices types include the **New Folder** and **Format** options, other types include only an **Erase** option.

8. In the **Export** window, select the directory where you want to copy the files, or create a **New Folder**.

9. Click the **Export** button to start the **Export**. The Export window will list the files that were transferred. Allow the operation to finish before continuing.

10. Check the Export result by playing a file that was exported. In the Export window, click the file you want to play, then click the associated icon in the Play column.

**Note**: The Player utility player.exe will be exported automatically during video file export.

## 6.3.4 Exporting Video Clips during playback

Segments of video recordings can be backed up (exported) during playback. These files exported to a USB storage device such as a USB flash drive or USB disk drive, or USB optical drive.

1. Attach an USB storage device, such as a USB flash drive or USB disk drive or USB optical drive, to the NVR USB port.

2. Playback a video file.

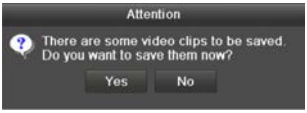
Clip (Start clipping) icon

3. Advance the file playback to the start of the segment you want to export, then click the Clip icon (scissors) at the bottom of the screen to mark the start of the clip you want to save.

4. Advance the file playback to the end of the segment you want to export, then click the Clip icon (scissors) at the bottom of the screen to mark the end of the clip you want to save.

Clip (Stop clipping) icon

5. Right click anywhere in the video window, then select **Exit**. The Attention pop-up window shown below will appear.



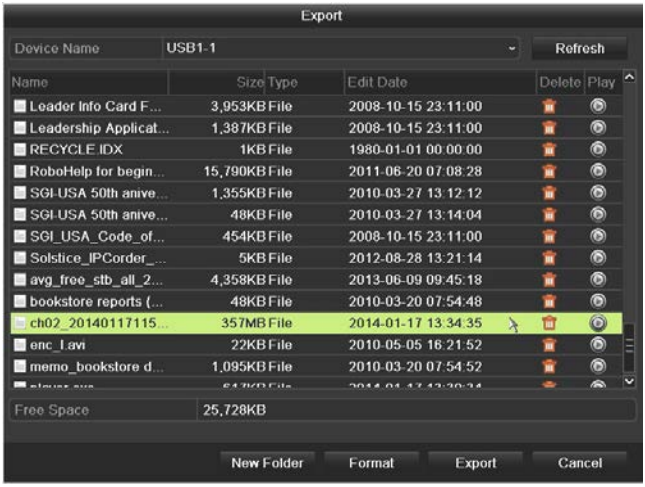

6. Click **Yes** to save the video clip you marked.

7. In the **Export** window, select the directory where you want to save the file if available, or just click **Export**, then click **Quick Export.** A pop-up window will open showing the file structure of your external storage device. If your USB device is not shown in the **Device Name** field, click the **Refresh** button. **NOTE**: Some USB devices types include the **New Folder** and **Format** options, other types include only an **Erase** option.

8. In the **Export** window, select the directory where you want to copy the files, or create a **New Folder**.

9. Click the **Export** button to start the **Export**. The Export window will list the files that were transferred. Allow the operation to finish before continuing.

10. Check the Export result by playing a file that was exported. In the Export window, click the file you want to play, then click the associated icon in the Play column.




**Note**: The Player utility player.exe will be exported automatically during video file export.

# SECTION 7
# Managing User Accounts

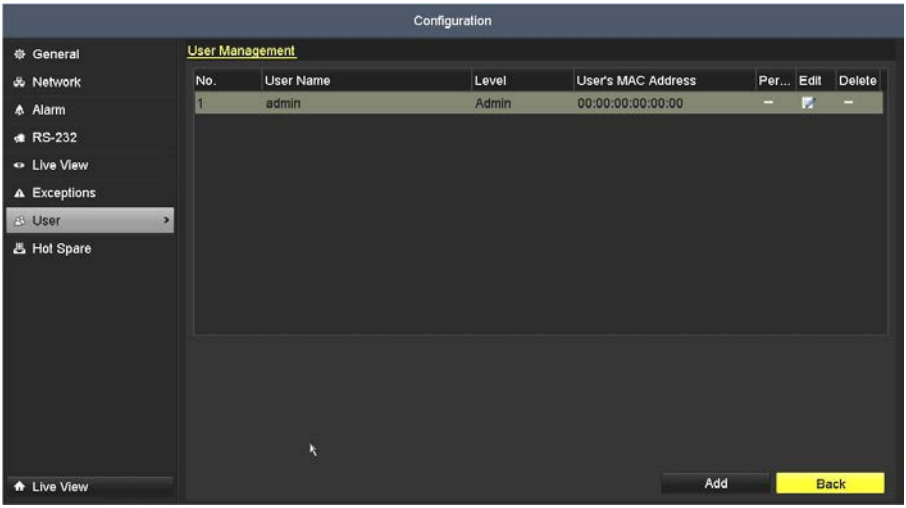
User accounts are created to control access to the system both at the NVR and when logging into the NVR from a remote computer. Each account has a User Name, Password, and a selection of permissions granted to the user.

By default, one user, named "admin", is provided. The admin user is granted all permissions with the system, and can create, modify, and delete other users. User Name "**admin**", is assigned the default password "**12345**". To improve system security, it is strongly recommended that the default password be changed during the initial system setup.

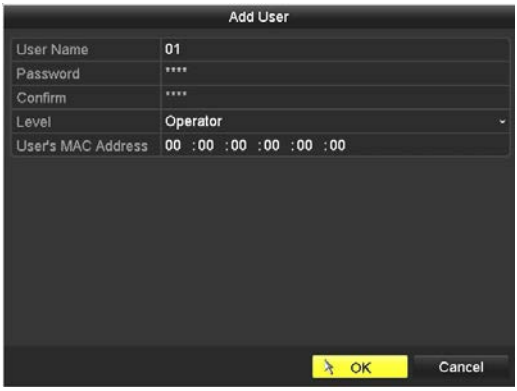
The NVR supports up to 32 user accounts.

## 7.1 Adding a user account

1. Enter the User Management interface. Go to **Menu | Configuration | User**



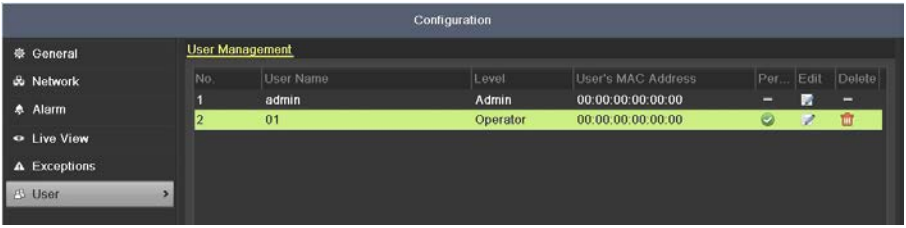

2. Click **Add** to open the Add User menu.



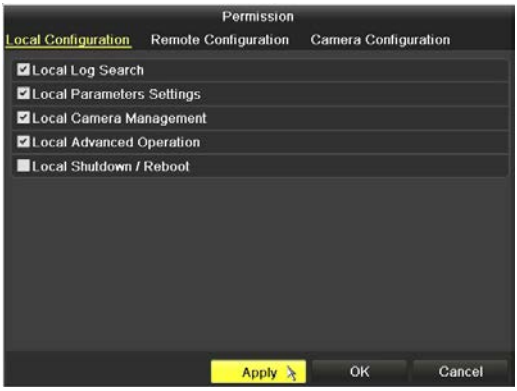

3. Enter the information for new user, including User Name, Password, Level and User's MAC Address.

   — Set the user **Level** to Operator or Guest. Different **Levels** have different operating permission.
      * **Operator**: The Operator user level has permission of Two-way Audio in Remote Configuration and all operating permission in Camera Configuration by default.
      * **Guest**: The Guest user has no permission of Two-way Audio in Remote Configuration and only has the local/remote playback in the Camera Configuration by default.
   — **User's MAC Address**: The MAC address of the remote PC which logs onto the NVR. If this option is configured and enabled, a remote user with this MAC address only can access the NVR.

4. Click the **OK** to save the settings and go back to the User Management interface. The added new user will be displayed on the list. See the screen shown below.




5. Select the user from the list and then click the button to enter the Permission settings (**Per** icon) interface. In the example above, user "**01**" was selected.

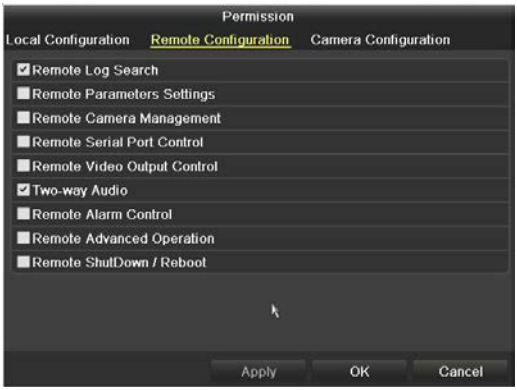



6. Set the operating permission of Local Configuration, Remote Configuration and Camera Configuration for the user.

**Local Configuration options:**

- **Local Log Search**: Searching and viewing logs and system information of NVR.
- **Local Parameters Settings**: Configuring parameters, restoring factory default parameters and importing/exporting configuration files.
- **Local Camera Management**: Use for adding, deleting and editing of IP cameras.
- **Local Advanced Operation**: Operating HDD management (initializing HDD, setting HDD property), upgrading system firmware, clearing I/O alarm output.
- **Local Shutdown Reboot**: Shutting down or rebooting the NVR.

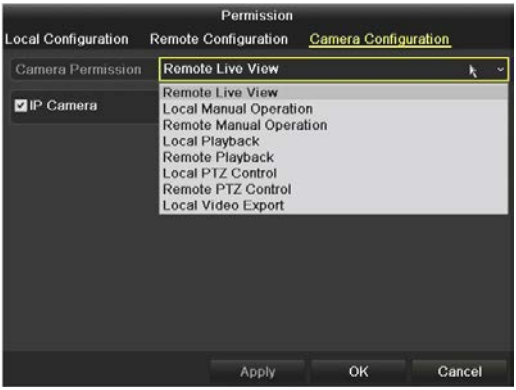
**Remote Configuration options**




- **Remote Log Search**: Remotely viewing logs that are saved on the NVR.

- **Remote Parameters Settings**: Remotely configuring parameters, restoring factory default parameters and importing/exporting configuration files.
- **Remote Camera Management**: Remote adding, deleting and editing of the IP cameras.
- **Remote Serial Port Control**: Reserved for future expansion.
- **Remote Video Output Control**: Sending remote button control signal.
- **Two-Way Audio**: Realizing two-way radio between the remote client and the NVR.
- **Remote Alarm Control**: Remotely arming (notify alarm and exception message to the remote client) and controlling the alarm output.
- **Remote Advanced Operation**: Remotely operating HDD management (initializing HDD, setting HDD property), upgrading system firmware, clearing I/O alarm output.
- **Remote Shutdown/Reboot**: Remotely shutting down or rebooting the NVR.

**Camera Configuration**

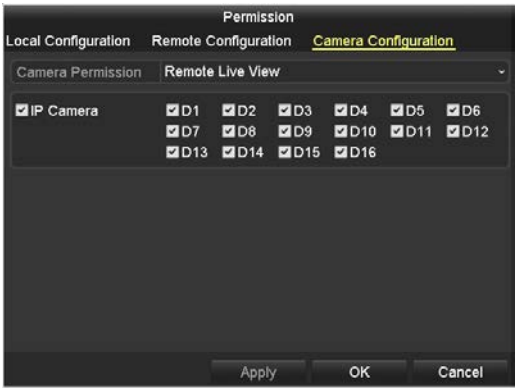



- **Remote Live View**: Remotely viewing live video of the selected camera(s).
- **Local Manual Operation**: Locally starting/stopping manual recording, picture capturing and alarm output of the selected camera(s).
- **Remote Manual Operation**: Remotely starting/stopping manual recording, picture capturing and alarm output of the selected camera(s).
- **Local Playback**: Locally playing back recorded files of the selected camera(s).
- **Remote Playback**: Remotely playing back recorded files of the selected camera(s).
- **Local PTZ Control**: Locally controlling PTZ movement of the selected camera(s).
- **Remote PTZ Control**: Remotely controlling PTZ movement of the selected camera(s).
- **Local Video Export**: Locally exporting recorded files of the selected camera(s).

7. Click **OK** to save your settings and exit the **User** menu.

**NOTE** *Only the admin user account has permission to restore the DVR to factory default settings.*

8. Select the IP Camera(s) the user will have access to.

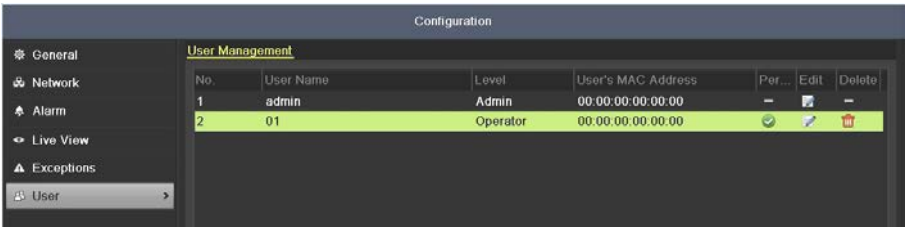



9. Click **Apply** to save your settings, then click **OK** to return to the **User** menu.

## 7.2 Deleting a user account

1. Enter the User Management interface. Go to **Menu | Configuration | User**

2. Click the entry for the user to be deleted from the list. When the item is selected, it is highlighted.



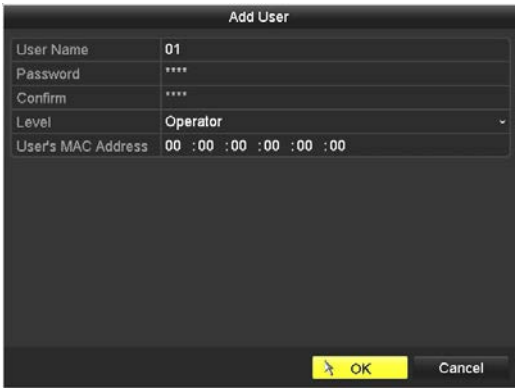

3. Click the **Delete** (trash can) icon to delete the selected user.

## 7.3 Editing a user account

1. Enter the User Management interface. Go to **Menu | Configuration | User**

2. Select the user to be edited from the list (see the **User Management** window above).

3. Click the **Edit** icon to open the Edit User interface. **Note**: The user name **admin** can also be changed.

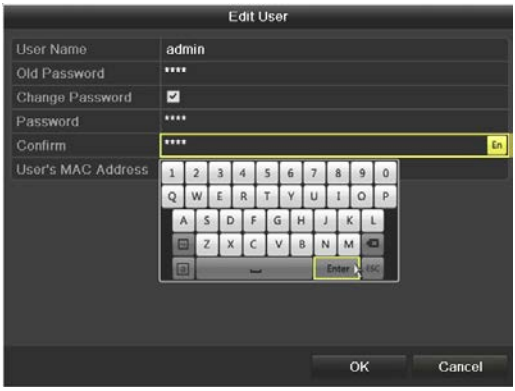



4. Select and edit the menu options as needed:
   - **Operator and Guest**: You can edit the user information, including user name, password, permission level and MAC address. To change the password, check the **Change Password** box, then enter the new password in the Password and Confirm fields.
   - **Admin**: In the Edit User menu for the admin user, you can edit only password and MAC address. To change the password, check the **Change Password** box, enter the old (current) admin password, then enter the new password in the Password and Confirm fields.

5. Click **OK** to save the settings and exit the menu.

## 7.3.1 Edit admin user

Observint highly recommends that the password for the admin user be changed to improve system security. To change the admin user password, follow the steps in "7.3 Editing a user account" on page 122. The ***admin*** username cannot be changed.




*admin user Edit User menu*

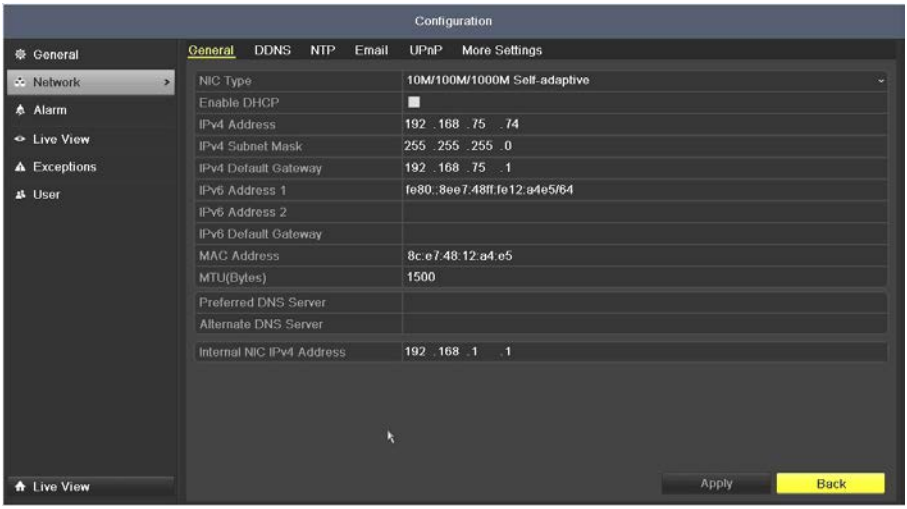
# SECTION 8
# Network Settings

## 8.1 Configuring General Settings

Network settings must be properly configured before you connect the NVR to cameras on network, or access it remotely.

1. Open the Network Settings menu. Go to **Menu | Configuration | Network**

2. Click the **General** tab.




3. In the General Settings menu, select or enter the following parameters: NIC Type, IPv4 Address, IPv4 Gateway, MTU (valid range is value range of MTU is 500 ~ 9676) and DNS Server IP addresses. If the DHCP server is available, check the Enable DHCP box to automatically obtain an IP address and other network settings from the network DNS server.

4. Enter the Internal NIC IPV4 Address, if necessary, to assign IP addresses to the cameras connected to the PoE interfaces.

5. Click **Apply** to save your settings.

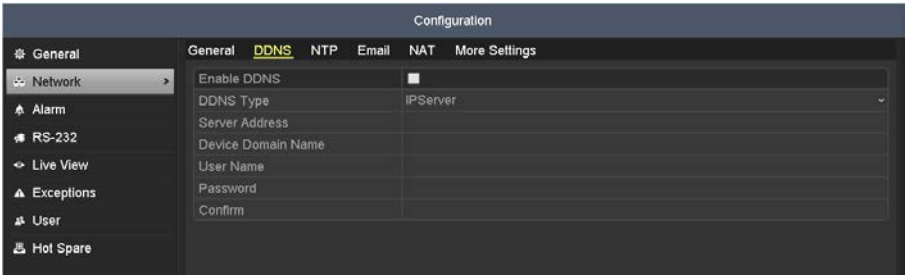
# 8.2 Configuring Advanced Settings

## 8.2.1 Configuring DDNS

If your NVR is set to use PPPoE as its default network connection, you may set Dynamic DNS (DDNS) to be used for network access. Registration with your ISP is required before configuring the system to use DDNS.

1. Open the Network Settings menu. Go to **Menu | Configuration | Network**

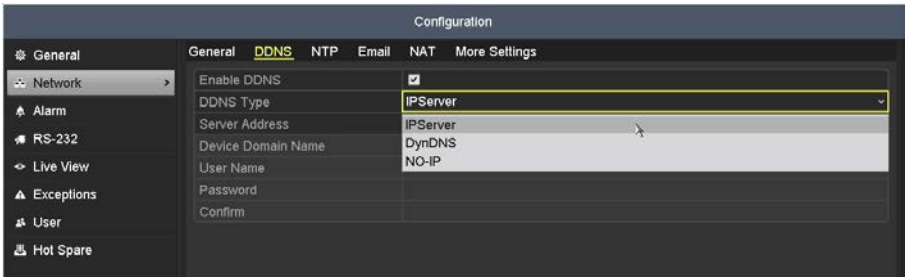
2. Click the DDNS tab to open the DDNS Settings menu.



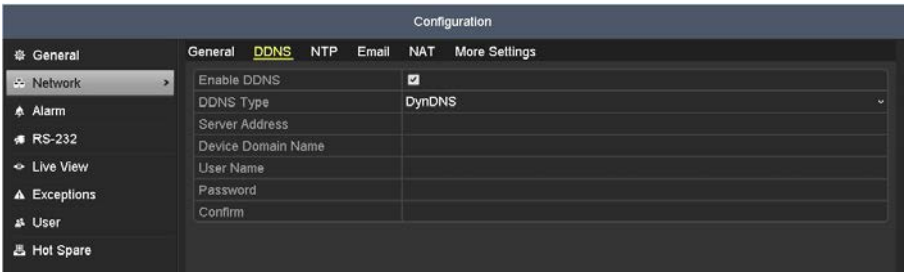

3. Check the **Enable DDNS** box to enable this feature.

4. Open the **DDNS Type** drop down list and select one of three options: IPServer, DynDNS, NO-IP.

   — **IPServer**: Enter Server Address for IPServer.



— **DynDNS**:

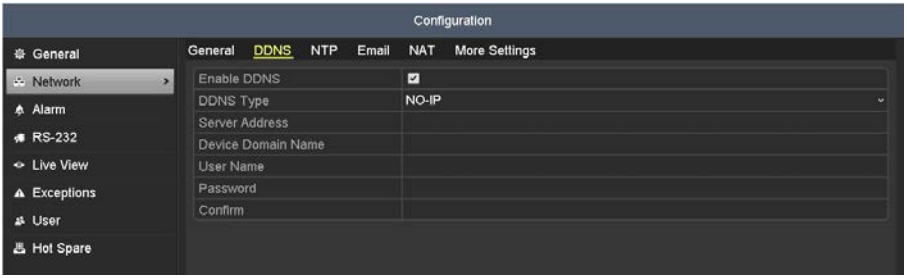



i. Enter Server Address for DynDNS (i.e. members.dyndns.org).

ii. In the NVR Domain Name text field, enter the domain obtained from the DynDNS website.

iii. Enter the User Name and Password registered in the DynDNS website.

— **NO-IP**: Enter the account information in the corresponding fields. Refer to the DynDNS settings.




i. Enter Server Address for NO-IP.

ii. In the NVR Domain Name text field, enter the domain obtained from the NO-IP website (www.no-ip.com).

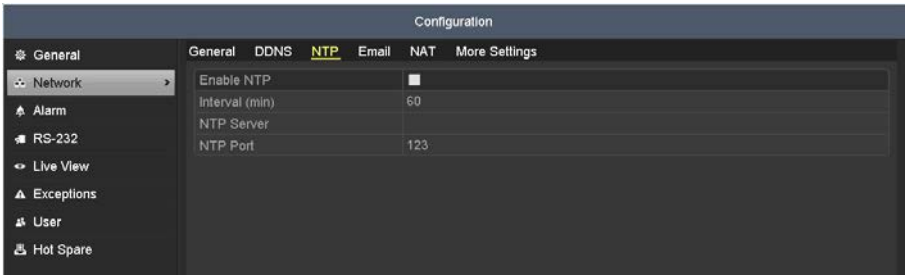
iii. Enter the User Name and Password registered in the NO-IP website.

## 8.2.2 Configuring NTP Server

A Network Time Protocol (NTP) Server can be configured on your NVR to ensure the accuracy of system date/time.

1. Open the Network Settings menu. Go to **Menu | Configuration | Network**

2. Click the NTP tab to open the NTP Settings menu.




3. Check the **Enable NTP** box to enable this feature.

4. Select the following NTP settings:

   — **Interval**: Interval in minutes between the two synchronizing actions with an NTP server.
   **NOTE**: The synchronization time interval can be set from 1 to 10080 minutes. The default value is 60 min. If the NVR is connected to a public network, use an NTP server that has a time synchronization function, such as the server at the National Time Center (IP Address: 210.72.145.44). If the NVR is setup in a customized network, NTP software can be used to establish a NTP server used for time synchronization.
   — **NTP Server**: IP address of NTP server
   — **NTP Port**: Port of NTP server

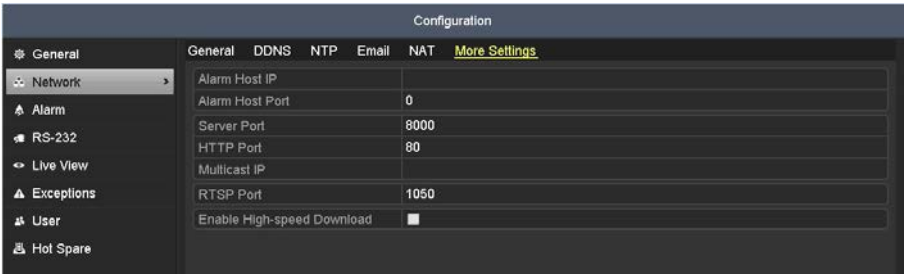
5. Click **Apply** to save your settings and close the menu.

## 8.2.3 Configuring Remote Alarm Host

With a remote alarm host configured, the NVR will send the alarm event or exception message to the host when an alarm is triggered. The remote alarm host must have the Network Video Surveillance software installed.

1. Open the Network Settings menu. Go to **Menu | Configuration | Network**

2. Click the More Settings tab to open the **More Settings** menu.




3. Enter the Alarm Host IP address and Alarm Host Port in the appropriate fields. The Alarm Host IP address is the IP address of the remote PC on which Network Video Surveillance Software is installed. The Alarm Host Port must be the same as the alarm monitoring port configured in the software.

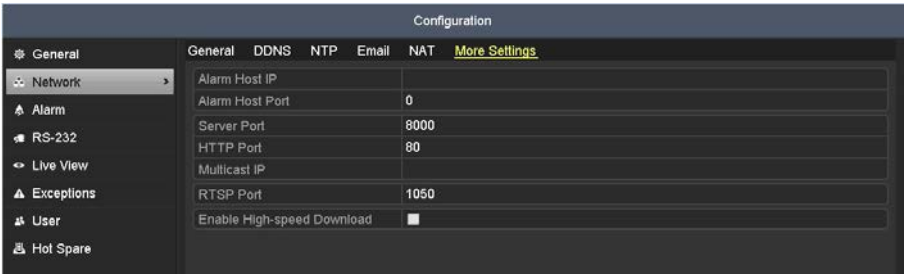
4. Click **Apply** to save your settings and close the menu.

## 8.2.4 Configuring Multicast

Using the multicast function, more than 64 cameras are connectable. A multicast address spans the Class-D IP range of 224.0.0.0 to 239.255.255.255. We recommended that you use the IP address range from 239.252.0.0 to 239.255.255.255.

1. Enter the Network Settings interface. Go to **Menu | Configuration | Network**

2. Click the **More Settings** tab to open the **More Settings** menu.




3. Set the Multicast IP address. When adding a device to the Network Video Surveillance Software, the multicast address must be the same as the NVR's multicast IP.

4. Click **Apply** to save your settings and close the menu.

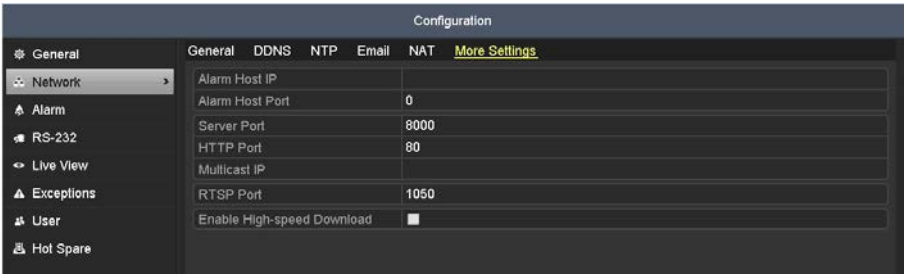
**NOTE** *The multicast function must be supported by the network switch to which the NVR is connected.*

## 8.2.5 Configuring RTSP

The RTSP (Real Time Streaming Protocol) is a network control protocol designed for use in communication systems to control streaming media servers.

1. Open the Network Settings menu. Go to **Menu | Configuration | Network**

2. Click the **More Settings** tab to open the **More Settings** menu.




3. In the menu shown above, enter the RTSP port number. The default RTSP port is 1050.

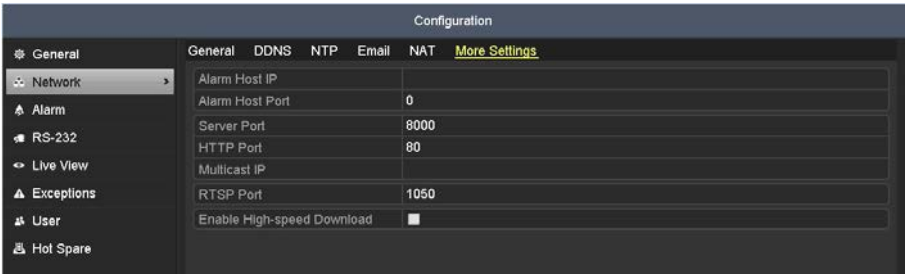
4. Click **Apply** to save your settings and close the menu.

## 8.2.6 Configuring Server and HTTP Ports

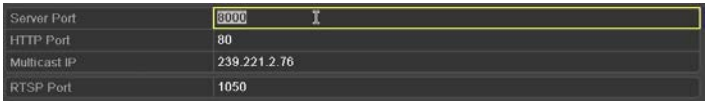
You can change the server and HTTP ports in the Network Settings menu. The default server port is 8000 and the default HTTP port is 80.

1. Open the Network Settings menu. Go to **Menu | Configuration | Network**

2. Click the **More Settings** tab to open the **More Settings** menu.




3. Enter a new Server Port number and HTTP Port number in the appropriate fields. The default Server Port is 8000 and the HTTP Port is 80.




**NOTE** *The Server Port number must be in the range 2000 .. 65535. it is used for remote client software access. The HTTP port is used for remote IE access.*

4. Click **Apply** to save your settings and close the menu.

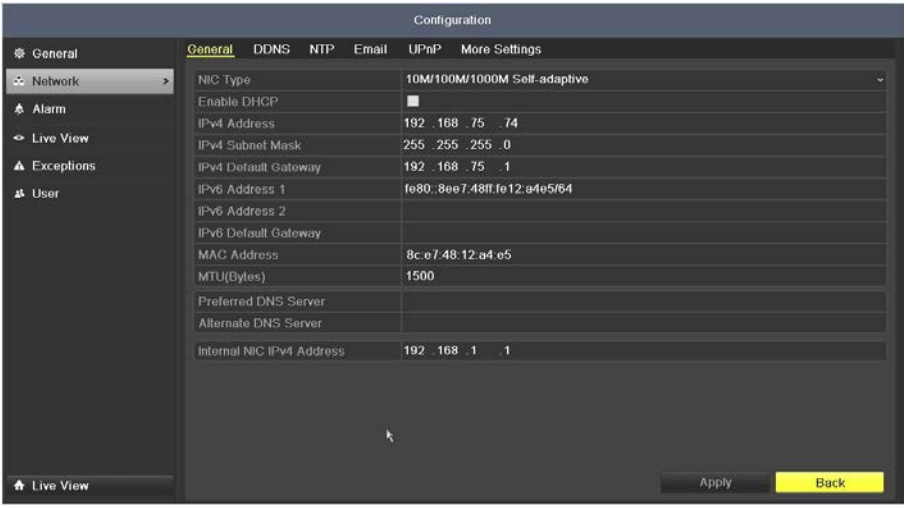
## 8.2.7 Configuring Email

The system can be configured to send an Email notification to all designated users if an alarm event is detected, etc., an alarm or motion event is detected or the administrator password is changed.

Before configuring the Email settings, the NVR must be connected to a local area network (LAN) that maintains an SMTP mail server. The network must also be connected to either an intranet or the Internet depending on the location of the e-mail accounts to which you want to send notification.

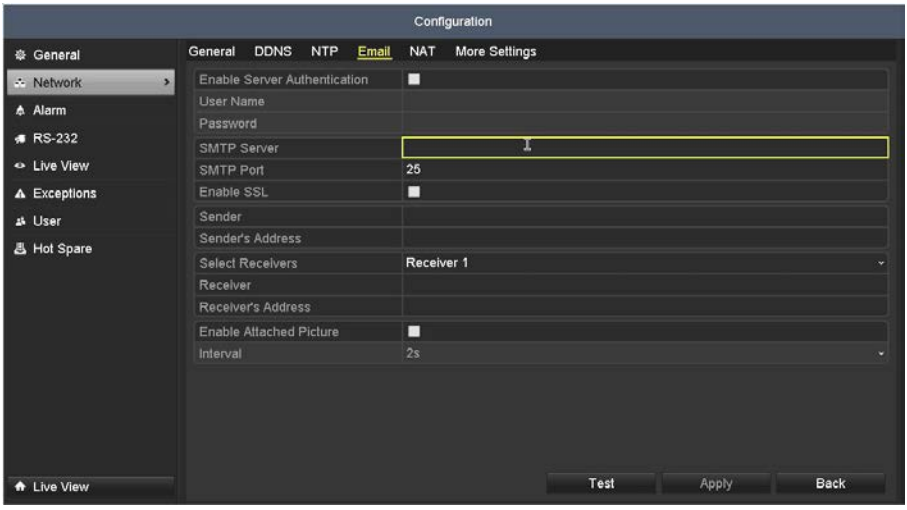
1. Open the Network Settings menu. Go to **Menu | Configuration | Network**

2. Set the IPv4 Address, IPv4 Subnet Mask, IPv4 Gateway and the Preferred DNS Server in the Network Settings menu.




3. Click **Apply** to save your settings and close the menu.

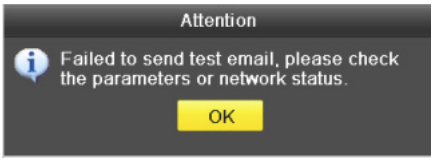
4. Click the **Email** tab to open the email settings men.

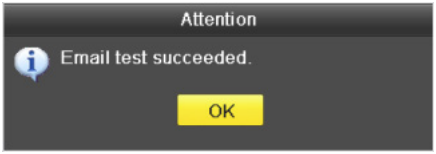


5. Configure the following Email settings:
   - **Enable Server Authentication** (optional): Check the checkbox to enable the server authentication feature.
   - **User Name**: The user account of sender's Email for SMTP server authentication.
   - **Password**: The password of sender's Email for SMTP server authentication.
   - **SMTP Server**: The SMTP Server IP address or host name (e.g., smtp.263xmail.com).
   - **SMTP Port No**.: The SMTP port. The default TCP/IP port used for SMTP is 25.
   - **Enable SSL** (optional): Click the checkbox to enable SSL if required by the SMTP server.
   - **Sender**: The name of sender.
   - **Sender's Address**: The Email address of sender.
   - **Select Receivers**: Select the receiver. Up to 3 receivers can be configured.
   - **Receiver**: The name of user to be notified.
   - **Receiver's Address**: The Email address of user to be notified.
   - **Enable Attached Pictures**: Check the Enable Attached Picture box if you want to send email with attached alarm images. The interval is the time of two adjacent alarm images. You can also set SMTP port and enable SSL here.
   - **Interval**: The interval refers to the time between two actions of sending attached pictures.
   - **Test**: Click this button to send a test message to verify that the SMTP server can be reached.

6. Click **Apply** to save your settings.

7. Click the **Test** button to test your Email settings. The corresponding **Attention** message box will pop up.



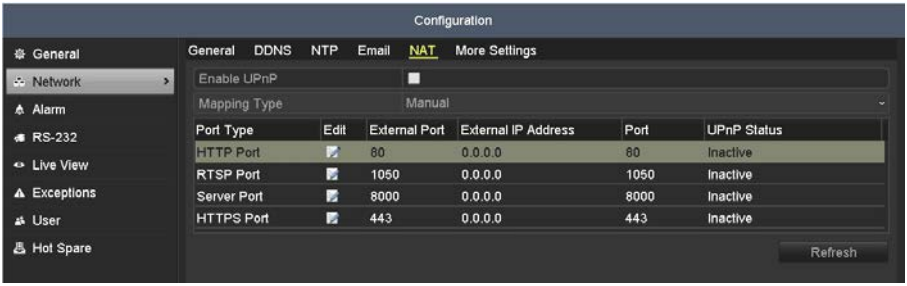

## 8.2.8 Configuring UPnP™

The Universal Plug and Play (UPnP™) feature allows the device to seamlessly discover other network devices and establish functional network services for data sharing, communications, etc. You can use the UPnP function to enable the fast connection of the device to the WAN via a router without port mapping.

If you want to enable the UPnP function of the device, you must enable the UPnP function of the router to which your device is connected. When the network working mode of the device is set as multi-address, the Default Route of the device should be in the same network segment as that of the LAN IP address of the router.

1. Open the Network Settings menu. Go to **Menu | Configuration | Network**

2. Click the **NAT** tab to open the NAT settings menu.




3. Check the **Enable UPnP** box to enable UPnP.

4. In the UPnP menu, you can click the icon in the **Edit** column to change the External Port number associated with the Port Type. When finished, click **Refresh**, and then click **Apply** to save your settings.

# SECTION 9
# System Maintenance

The Maintenance menus provide several displays that report system device information, log information, and network traffic. Features also include the export and import of the system configuration file, firmware upgrade, and factory reset.

## 9.1 System Information

The System Information displays include status reports of the NVR, cameras, record settings, the network and the HDDs. The configuration settings shown on these displays can only be changed in other areas of the menu system.

1. To open the System Information displays, go to **Menu | Maintenance | System Information**:

   The Device Info tab includes information about the NVR.

2. To view information about other parts of the system, click the appropriate tab.

## 9.2 Log Information

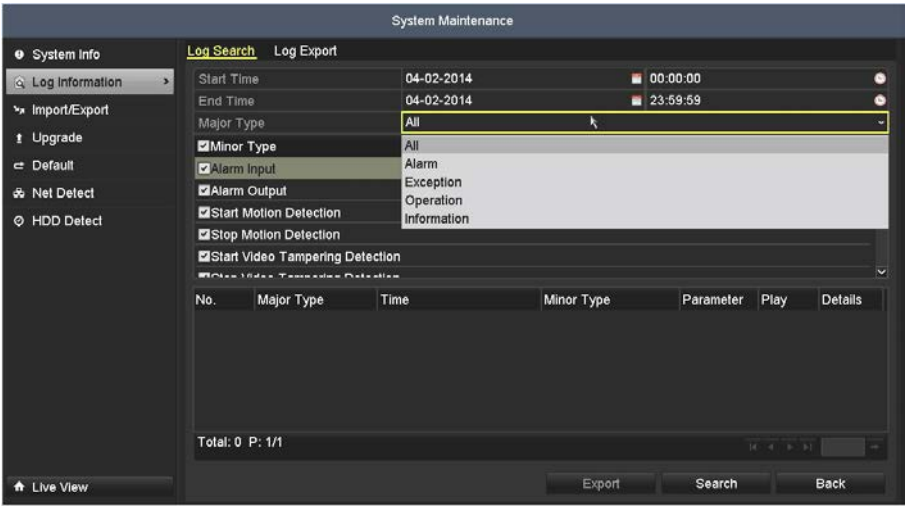
System log information is continuously generated and saved in log records. System logs include the following types of entries:

- **Alarms event**s - Start/stop motion detection, start/stop tamper detection etc.
- **Exception conditions** - Video loss, illegal login, HDD full/error, IP camera disconnected, network disconnected, etc.
- **Information events** - Start/stop recording, local/network HDD information, HDD S.M.A.R.T., etc.
- **Operation events** - power on, login, local operation logout, etc.

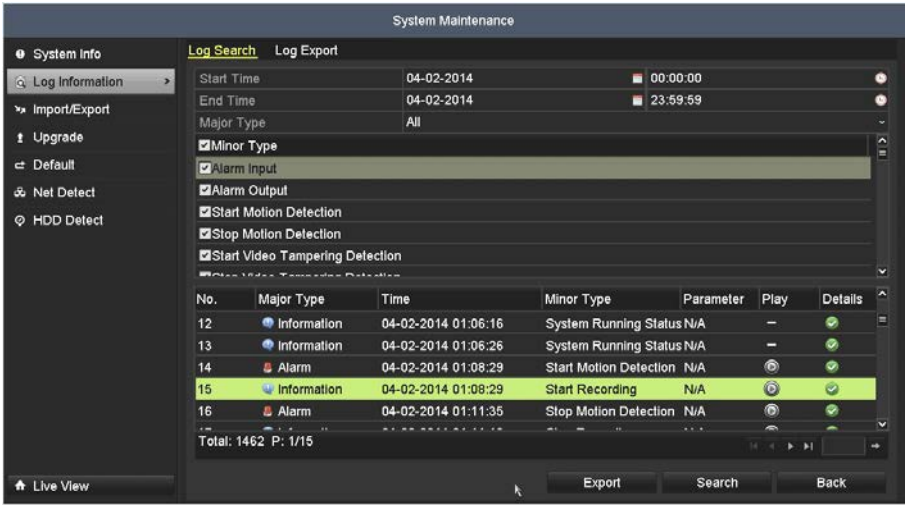
System logs can be searched and sorted for specific entries, and archived for use later. You can also search for video clips through system logs.

## 9.2.1 Log Search

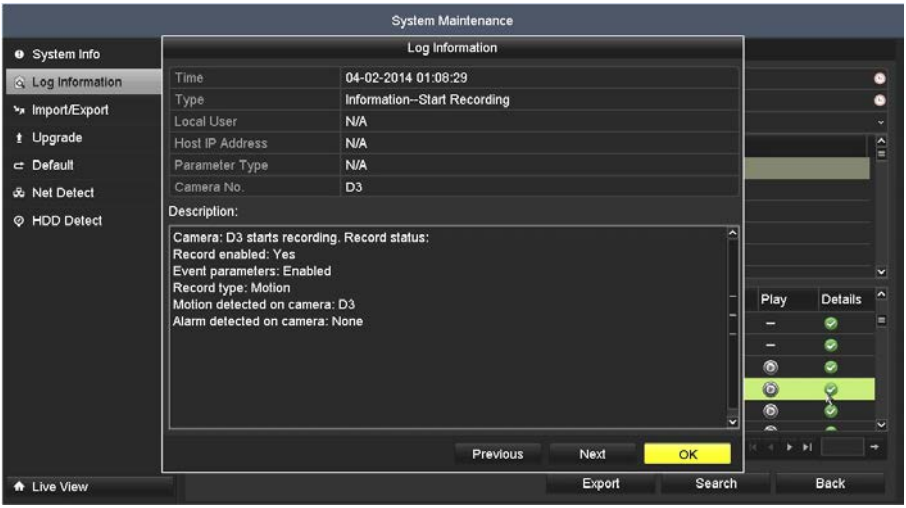
1. Open the Log Information screen. Go to **Menu | Maintenance | Log Information**




2. Select a Start Time, End Time, Major Type and Minor Type., then click **Search**. In the example below, the search criterion specified are "All" (Major Type) entries.



3. You can Export the result of the log search (click Export), choose a log entry with record file and click the playback button to play the file, or click the icon in the Details column to see more information about the entry. Click the icon in the **Details** column to see more information about the log entry.



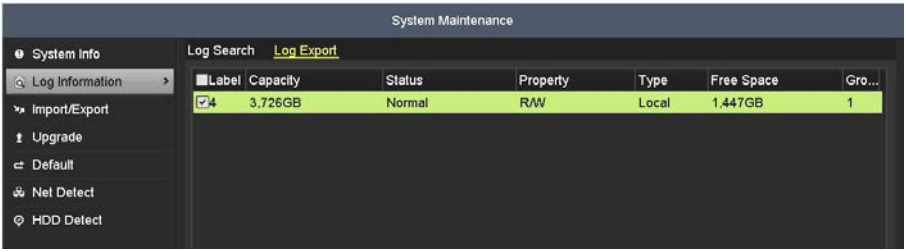

## 9.2.2 Log Export

Log information can be exported to a backup device such as a USB storage device. The exported log file is in .txt format and readable with an ASCII text viewer such as Microsoft® Windows® Notepad or Wordpad. The filename, prefixed with the date and timestamp, in the format *YYYYMMDDHHMMSSlogBack.txt*. To export the log file:

1. Attach an USB storage device, such as a USB flash drive or USB disk drive, to the NVR USB port.

2. Open the Log Information menu. Go to **Menu | Maintenance | Log Information**

3. Click the **Log Export** tab to display the NVR storage devices.

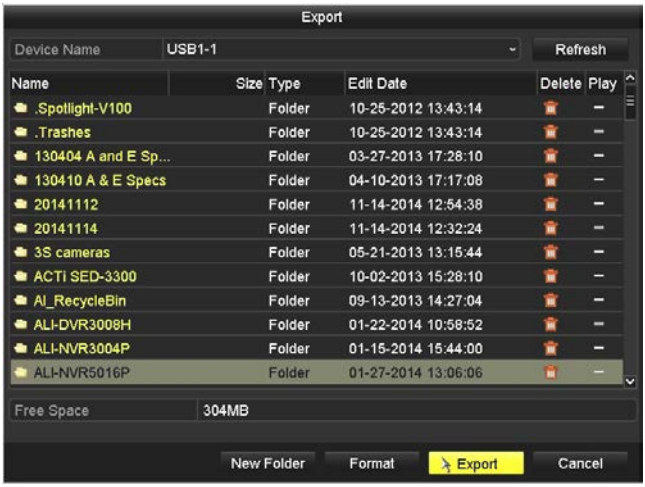



4. Check the select box for the storage devices that contain log information.

5. Click **Export**.

6. On the **Device Name** line, open the drop down list and select the destination for the file export.

7. Select the directory where you want to copy the files, or create a **New Folder**.



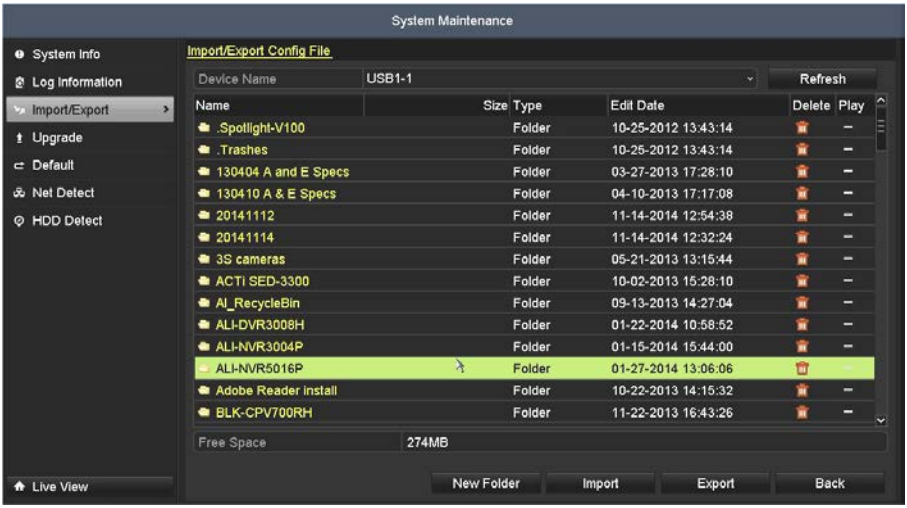

8. Click the **Export** button to start the **Export**. Allow the operation to finish before continuing.

9. Check the Export result on a computer by opening a file that was saved.

## 9.3 Import / Export system configuration

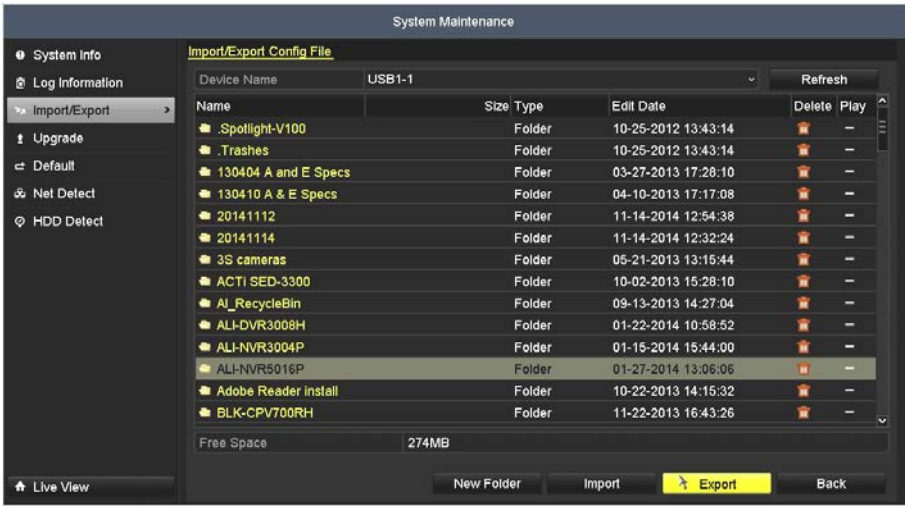
You can export the NVR configuration, then import the file later to restore the earlier configuration.

1. Attach an USB storage device, such as a USB flash drive or USB disk drive, to the NVR USB port.
2. Open the **Import/Export** menu. Go to **Menu | Maintenance | Import/Export**
3. On the **Device Name** line, open the drop down list and select the destination for the exported configuration file.

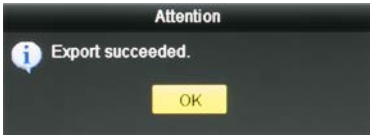



### Export configuration file

4. In the Device directory, highlight the location where you want to save the configuration file.




5. Click the **Export** button to start the export. Allow the operation to finish before continuing. When the export operation is successful, an "Attention" "Export succeeded" pop-up window will open.



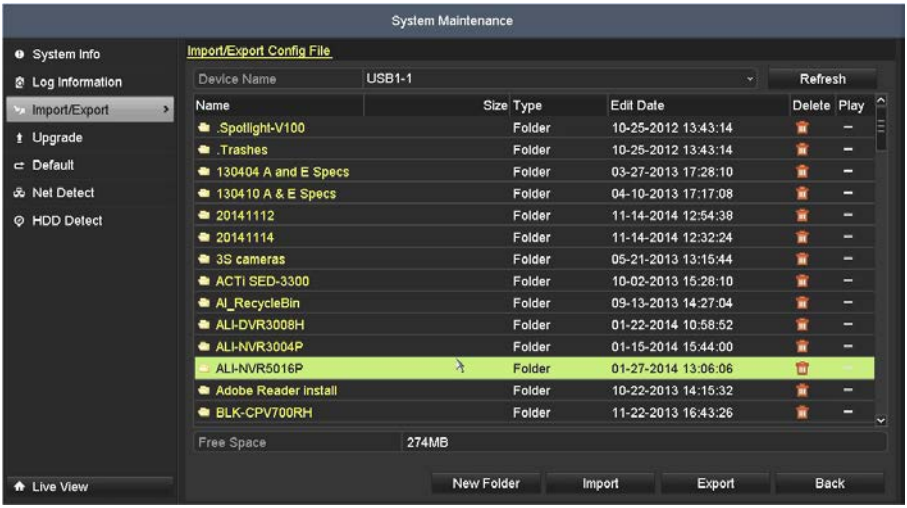

6. Click **OK** to close the pop-up window.

**NOTE**: The configuration backup file a binary file with a timestamp in the format *devCfg_<code>_YYYYMMDDHHMMSS.bin*

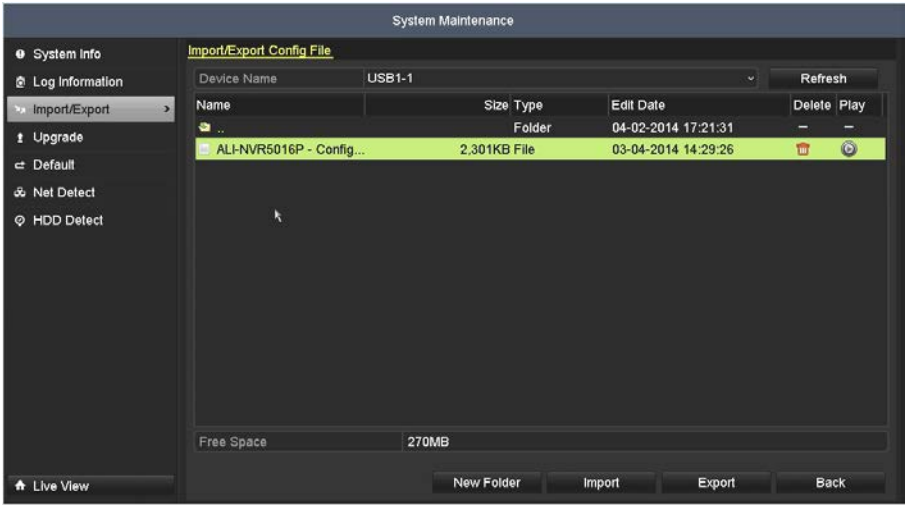
7. Record the name of the exported file for future reference.

## Import configuration file

1. On the **Device Name** line, open the drop down list and select the destination of the exported configuration file. The configuration backup file is a binary file with a timestamp in the format *devCfg_<code>_YYYYMMDDHHMMSS.bin*




2. If the configuration file was saved to a directory, click the folder icon to the left of the directory name to open the directory.




3. In the file list, highlight the NVR configuration file you want to load, and then click **Import**.

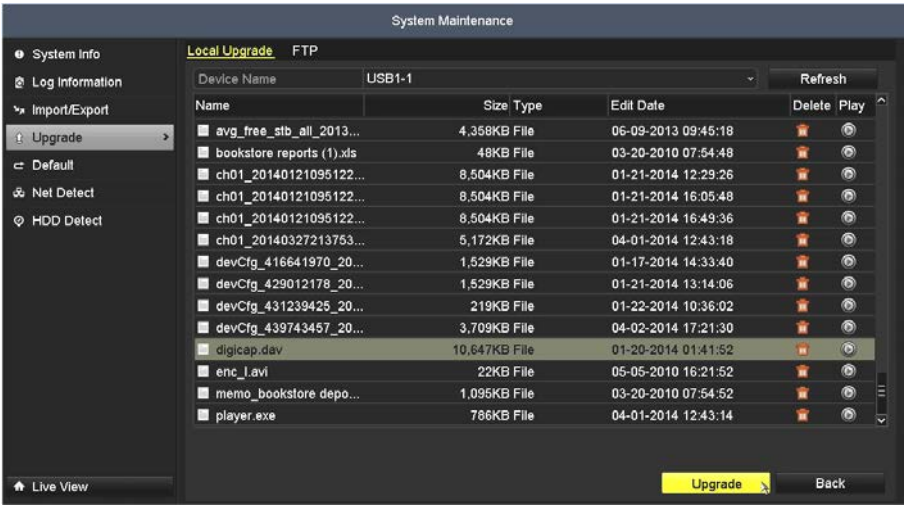
4. Allow the NVR to fully reboot, then use it normally.

## 9.4 Upgrade Firmware

You can upgrade the firmware through a local device or remote FTP server. You should check the current Firmware version before upgrading your DVR firmware. **Firmware upgrade should only be performed when recommended by your DVR support organization.**

1. To check the current firmware version, open the System information display. Go to **Menu | Maintenance | System Information**

2. If the firmware needs to be upgraded, click the **Upgrade** tab on the left.




3. If installing firmware from a local device such as a USB flash drive or disk:

    a. Connect the local device to the NVR, if necessary.

b. Open the **Device Name** drop down list and select the device that contains the firmware.

c. Click the firmware file you want to load.

d. Click the **Upgrade** button, the follow the on-screen instructions for completing the upgrade.

4. If installing firmware from a FTP server:

a. Click the FTP upgrade tab at the top of the menu.

b. Click the firmware file you want to load.

c. Click the **Upgrade** button, the follow the on-screen instructions for completing the upgrade.

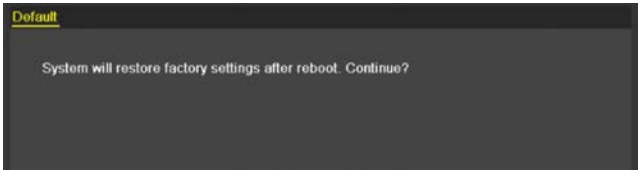
5. Open the System Information screen and verify that the new firmware version is installed.

## 9.5 Default

The default option will reset the NVR to its factory settings. Except the network parameters (including IP address, subnet mask, gateway, MTU, NIC working mode, default route and server port), all other configuration parameters are restored to factory default settings.

To restore the factory default configuration:

1. Open the Log Information menu. Go to **Menu | Maintenance | Default**



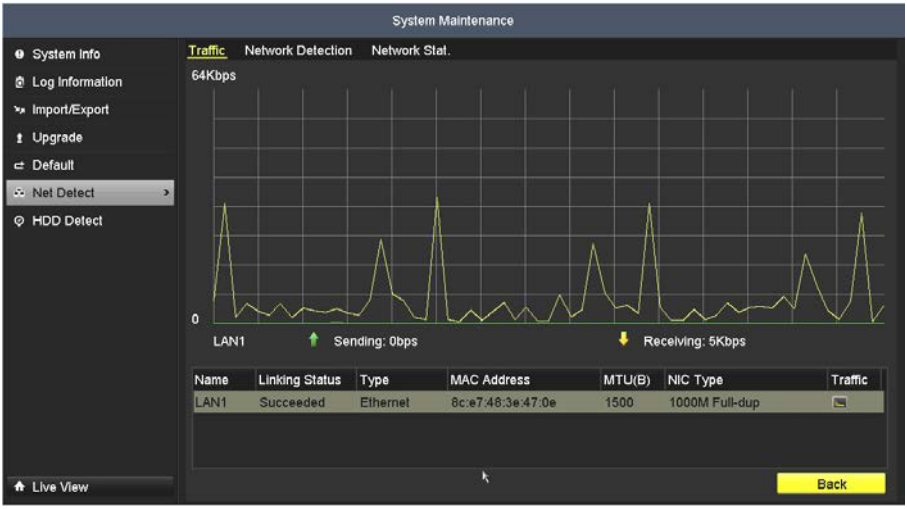

2. Click **OK**, then allow the NVR to reboot before continuing.

## 9.6 Net Detect

### 9.6.1 Checking Network Traffic

You can see real-time information of your NVR network traffic, such as linking status, MTU, sending/receiving rate, etc. The traffic data is refreshed every 1 second.

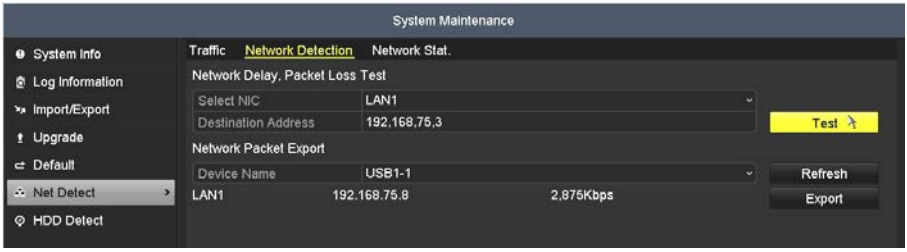
1. Open the Network Traffic menu. Go to **Menu | Maintenance | Net Detect**




## 9.6.2 Testing Network Delay and Packet Loss

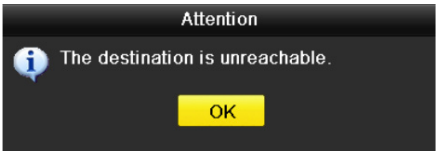
1. Open the Network Traffic menu. Go to **Menu | Maintenance | Net Detect**

2. Click the **Network Detection** tab to open the menu.




3. Enter the destination address in the Destination Address field.

4. Click the **Test** button to begin the test for network delay and packet loss. The testing result appear in the window. If the testing is failed, the error message box will open.



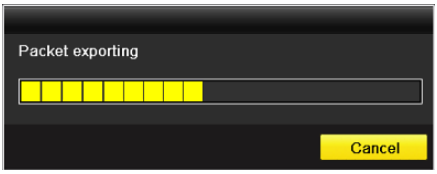

## 9.6.3 Exporting Network Packet

By connecting the NVR to network, the captured network data packet can be exported to a USB device such as a flash drive, HDD, DVD-R/W and other local USB backup devices.

1. Open the Network Traffic menu. Go to **Menu | Maintenance | Net Detect**
2. Click the **Network Detection** tab to open the Network Detection menu.
3. Select the backup device from the **Device Name** drop down list.

**Note**: Click the **Refresh** button if the connected local backup device cannot be displayed. When it fails to detect the backup device, verify that it is compatible with the NVR. Format the backup device if the format is incorrect.

4. Click the **Export** button to start the export.

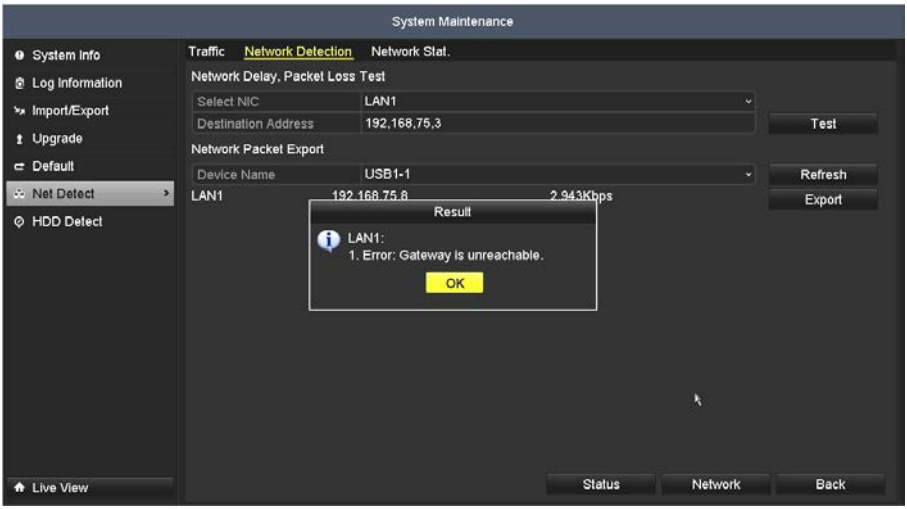


5. When the export is complete, click **OK**. Up to 1 M data can be exported during one operation.

## 9.6.4 Checking the network status

You can also check the network status and quickly set the network parameters.

1. Open the Network Traffic menu. Go to **Menu | Maintenance | Net Detect**
2. Click the **Network Detection** tab to open the Network Detection menu.
3. Click the **Status** button in the lower right corner to report the status.



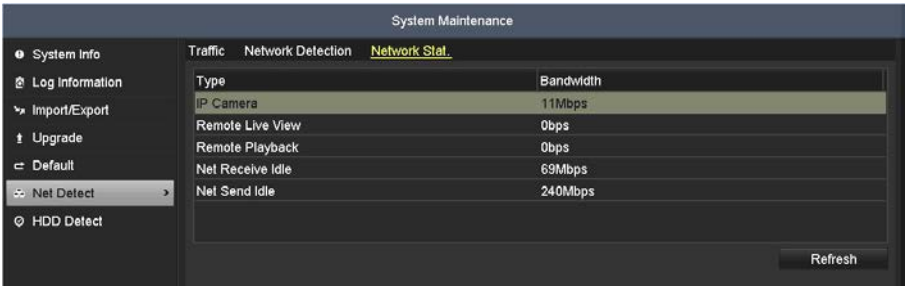

4. If the message box shows other information, click the **Network** button to open the **Network** parameters menu. After changing parameters, click **Apply**, and then click **OK** to save your settings and retry this test.

## 9.6.5 Checking Network Statistics

Use the following procedure to view real time network status of your NVR.

1. Open the Network Traffic menu. Go to **Menu | Maintenance | Net Detect**

2. Click the **Network Stat.** tab to open the Network status report.



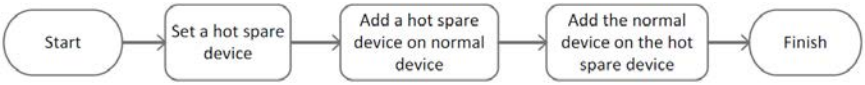

Use this display to check the bandwidth of the IP Camera, bandwidth of Remote Live View, bandwidth of Remote Playback, bandwidth of Net Receive Idle and bandwidth of Net Send Idle.

3. Click the **Refresh** button to show the current status.

## 9.7 Hot Spare device backup

The NVR can be configured for an N+1 hot spare backup system. The system consists of several working devices and a hot spare device; when the working device fails, the hot spare device switches into operation, thus increasing the reliability of the system. The hot spare device is external to the NVR and accessible through a LAN connection.

The general procedure for setting up a hot spare is shown in the flowchart below.




### 9.7.1 Identifying the Hot Spare device

**NOTE**

- *The camera connection will be disabled when the device works in the hot spare mode.*
- *It's highly recommended to restore the defaults of the device after switching the working mode of the hot spare device to normal mode to ensure the normal operation afterwards.*

1. Open the **Hot Spare** menu. Go to **Menu | Configuration | Hot Spare**

In the menu above:

a. Set the Work Mode as Hot Spare mode.

b. Click **Apply**, then click Yes to the **Attention** notice to reboot the NVR.

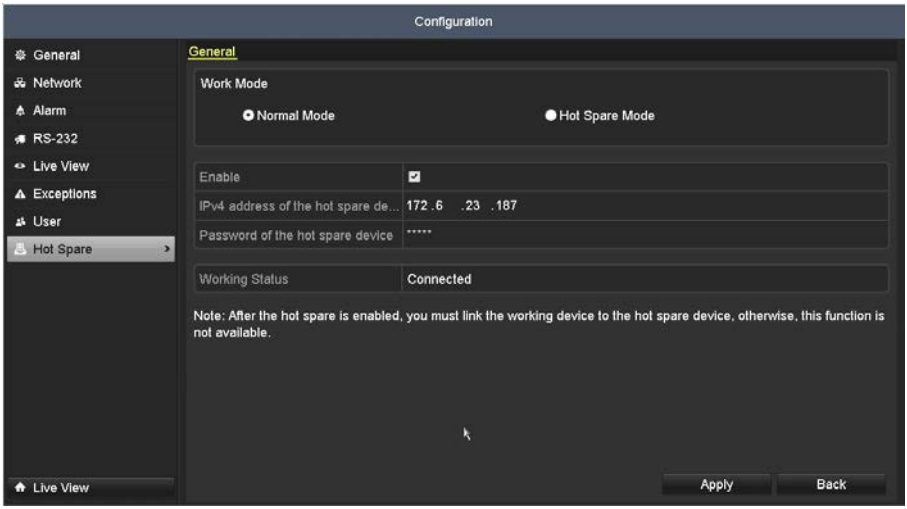
## 9.7.2 Setting the Working device

After rebooting the NVR in the previous step, do the following.

1. Open the **Hot Spare** menu. Go to **Menu | Configuration | Hot Spare**

2. In the **Hot Spare** menu, do the following:

   a. Set the Work Mode as Normal Mode (default).




   b. Check the checkbox of Enable to enable the hot spare function. See above.

   c. Enter the IPv4 address and admin password of hot spare device.

   d. Click **Apply** to save the settings. The Working Status should indicate **Connected**.

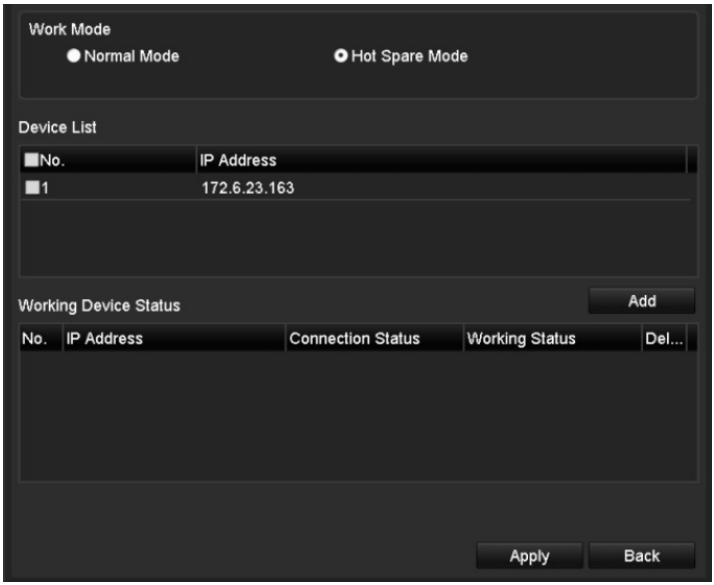
## 9.7.3 Managing Hot Spare System

1. Open the **Hot Spare** menu. Go to **Menu | Configuration | Hot Spare**

   The connected working device is displayed on the device list.

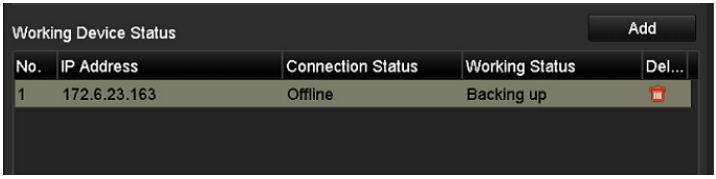
2. Check the box to select the working device from the device list, then click **Add** to link the working device to the hot spare device.

**NOTE** *A hot spare device can connect up to 32 working devices*

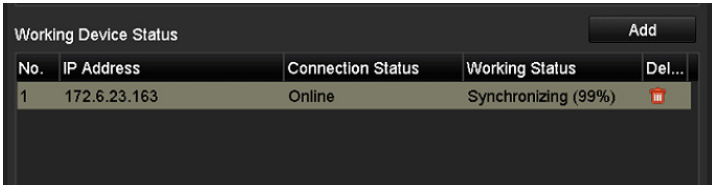



You can view the working status of the hot spare device on the Working Status list.

When the working device goes offline, the hot spare device will record the video of the IP Camera connected to the working device for backup, and the working status of the hot spare device is displayed as ***Backing up***.




When the working device becomes online, the lost video files will be restored by the record synchronization function, and the working status of the hot spare device is displayed as ***Synchronizing***.



# SECTION 10
# Remote Access

If you NVR is connected to a local network (LAN), you can access it from another computer on the LAN through Microsoft® Internet Explorer®. If using IE 10 or higher, you must configure it for "Compatibility" mode for the IP address you are logging into.

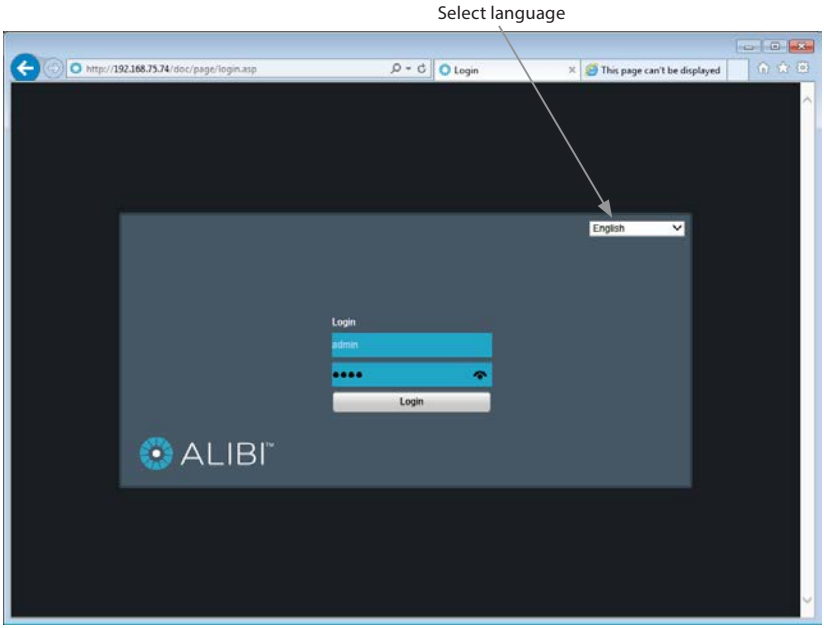
When connecting to the NVR, you must enter a User Name and Password. Note that some user permissions disallow remote access and/or features of this access method.

When logging into the NVR from a remote computer for the first time, you must install a plug-in program named WebComponents. The procedure for installing the program using Internet Explorer 11 is shown below. Subsequent log ins do not require you to reinstall WebComponents.

## 10.1 Remote login

To access the NVR from a computer on the LAN:

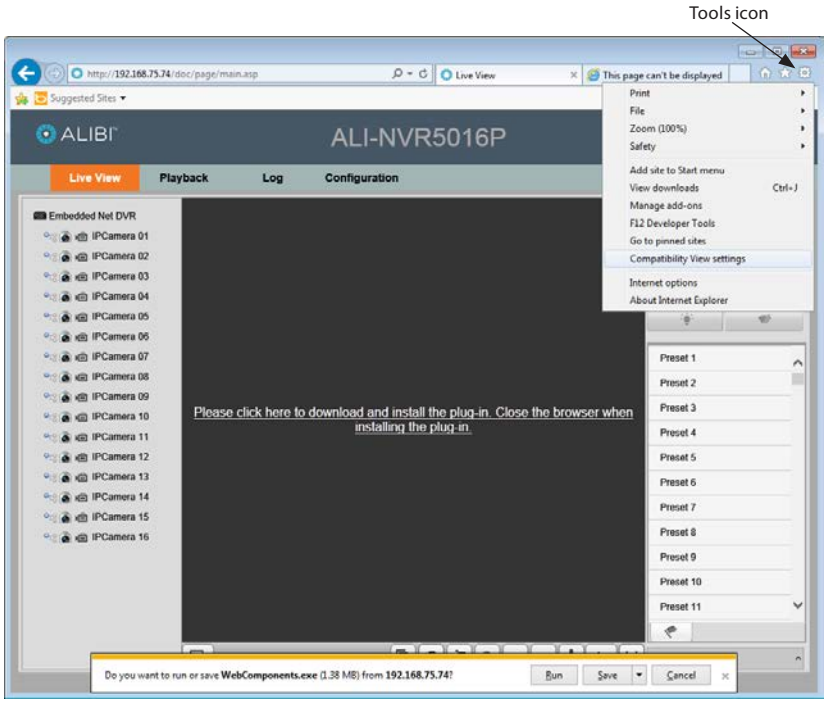
1. Open an Internet browser on your remote compute and enter the IP address of the NVR in the URL field. In the example below, the IP address of the NVR is 192.168.75.74.



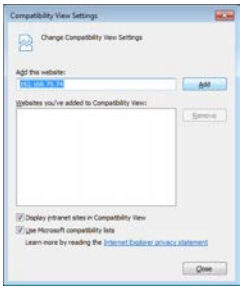
2. In the login window, enter your **User Name** and **Password** in the appropriate fields, then click **Login**. The default **User Name** and **Password** for the NVR is **admin** and **1111**.

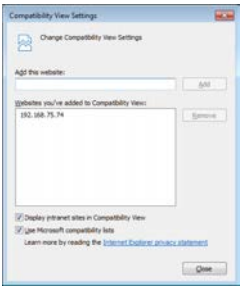
3. If this is the first time you are logging into a camera at this IP address AND you are using Internet Explorer 10 or newer, you must configure it for Compatibility mode:

   a. In Internet Explorer, click the Tools icon (located to the right of the tabs), then select Compatibility View settings from the drop-down menu.




   b. In the Compatibility View Settings window, ensure that the IP address of your camera is in the **Add this website** field, then click **Add**.

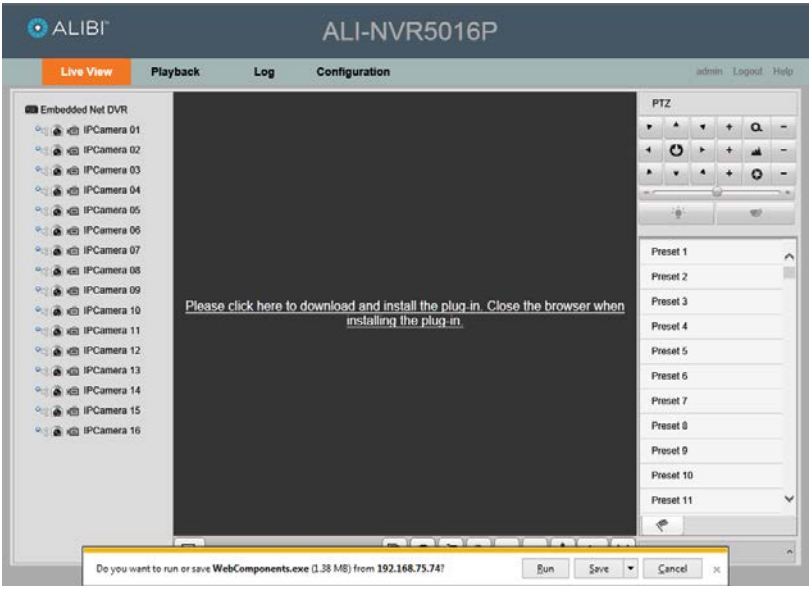


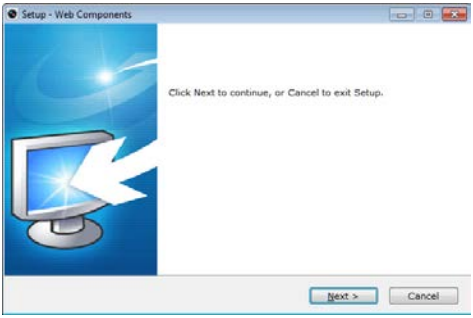

c. After clicking **Add**, the IP address will appear in the Websites list. Click **Close**.

4. If this login is the first login to the NVR from your computer and browser, continue with the following sub-steps:

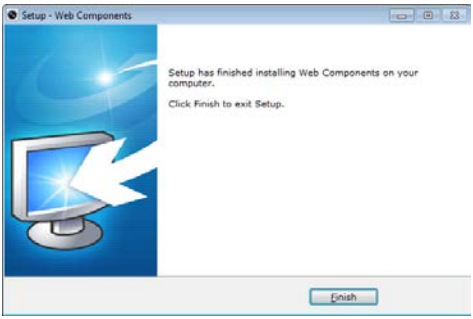
a. After a successful login to the NVR, a message will appear in the middle of the Live View window requiring you to load a plug-in. Click on the message to continue, then click **Run** in the pop-up window at the bottom of the screen.




b. In the **Setup - WebComponents** window opens, click **Next** to continue.



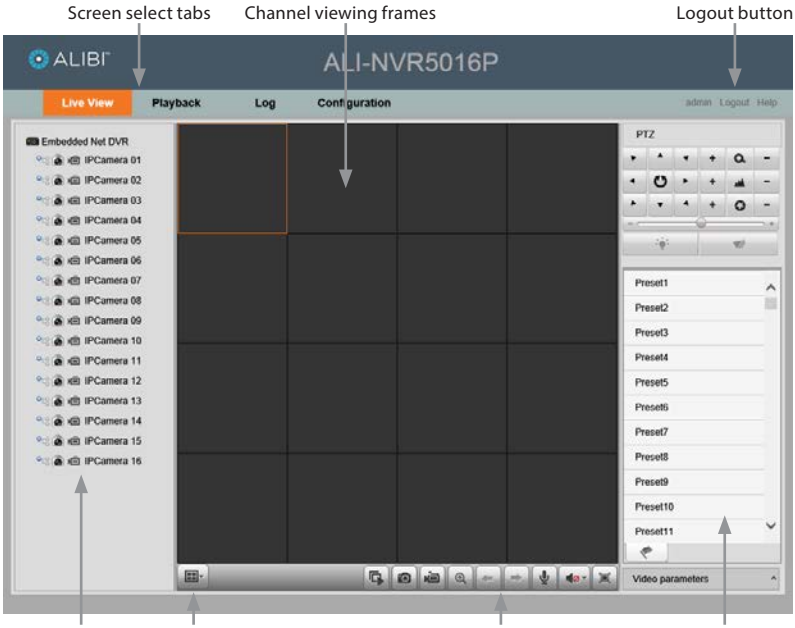

c. Allow the plug-in installation to complete. When the following window appears, click **Finish**.




## 10.2 Remote Live View screen

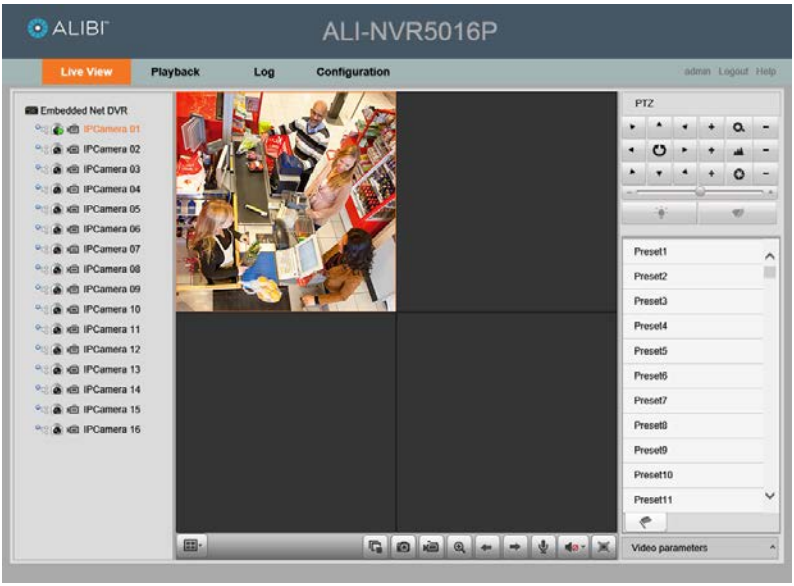
The Live View window initially appears in a multi-screen configuration with no live view images shown. You can:

- Change the viewing screen layout by clicking the multi-screen select button and selecting the icon for a 1 screen or a 2 x 2 layout.



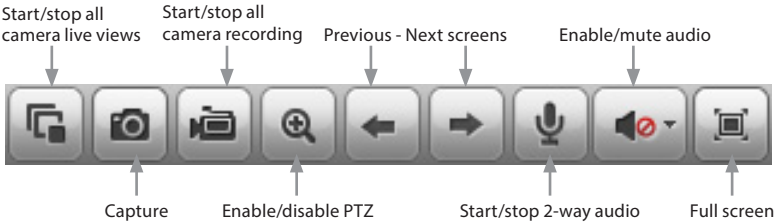

To view video from a camera in the Live View screen:

- Click a viewing frame to select it. When selected, the frame is surrounded by a bright box.
- Double click the camera channel you want to see.



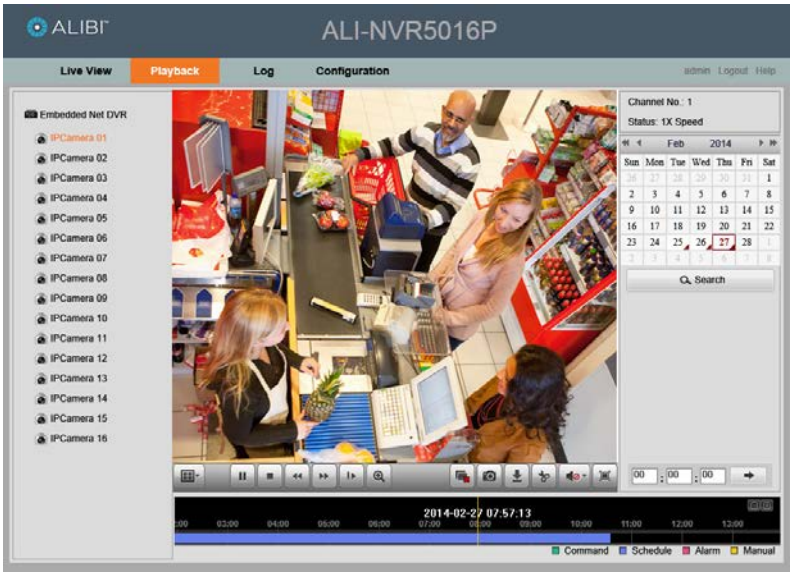

— To expand the image to full frame, double click the image in the viewing frame. To return to normal viewing mode, press **ESC** (keyboard escape key).

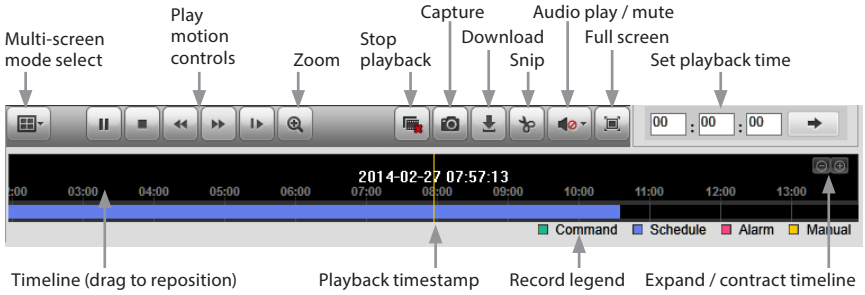
- You can control many Live View functions quickly with the Live View toolbar. The function of the toolbar icons are similar to those on the NVR channel viewing frame.




## 10.3 Remote Playback screen

Open the Playback screen by clicking **Playback** in the screen header. The Playback screen allows you to review video recorded from one camera or several cameras concurrently. Also, video can be downloaded to your local computer.




To playback recorded video:

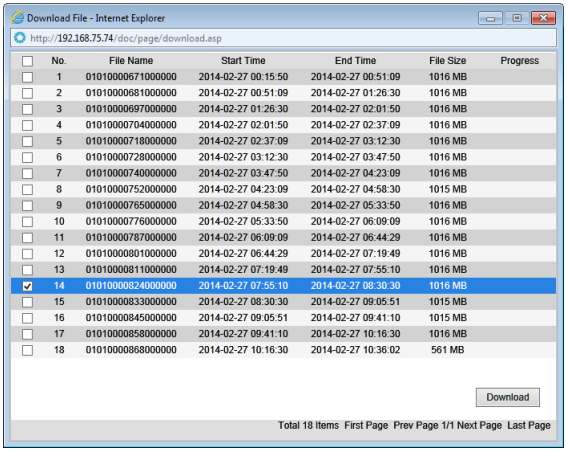
- Click the multi-screen mode button to select the number of viewing frames you need to display. You can select either a 1, 2 x 2, or 3 x 3 frame pattern.
- In the left frame, click the camera channel you want to play recorded video from. In the example above, *IPCamera 01* was selected.
- In the right frame, click the date when the video was recorded, then click the **Search** button. In the example above, February 27, 2014 was selected.
- At the bottom of the screen, drag the timeline left or right to find when video was recorded for the camera selected. The condition that caused video to be recorded is indicated by a colored band on the timeline. The color legend is shown below.

- Click the **Play** button to begin playing video.

To Download recorded video:

**NOTE** *The location where recorded video downloads and captures during playback are saved is shown on the **Configuration** | **Location Configuration** screen.*

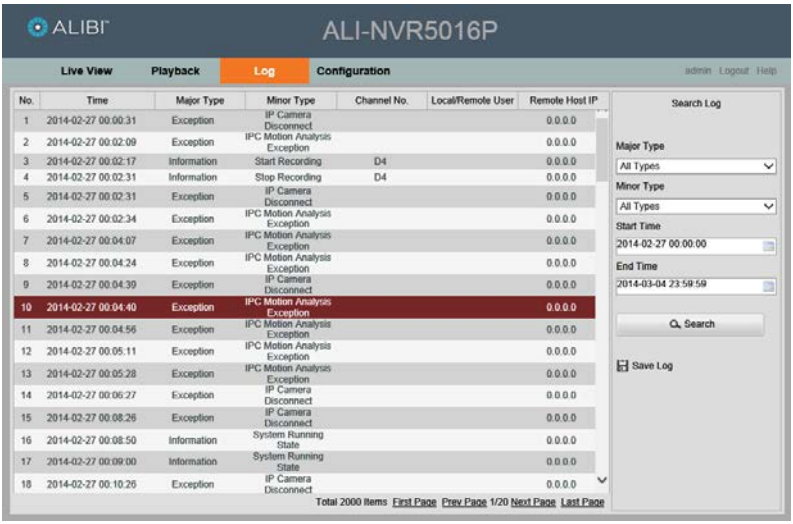
- Click the **Download** icon.




- Check the box of the video segment you want to download.
- Click the **Download** button.

## 10.4 Remote Log screen

Open the Log screen by clicking **Log** in the screen header. The NVR log report is created by specifying a search criteria using the menu in the right frame (or using the default options), then clicking the **Search** button. The search criteria menu includes filters to search for Major and Minor type events, and specify the start and end time of the report.

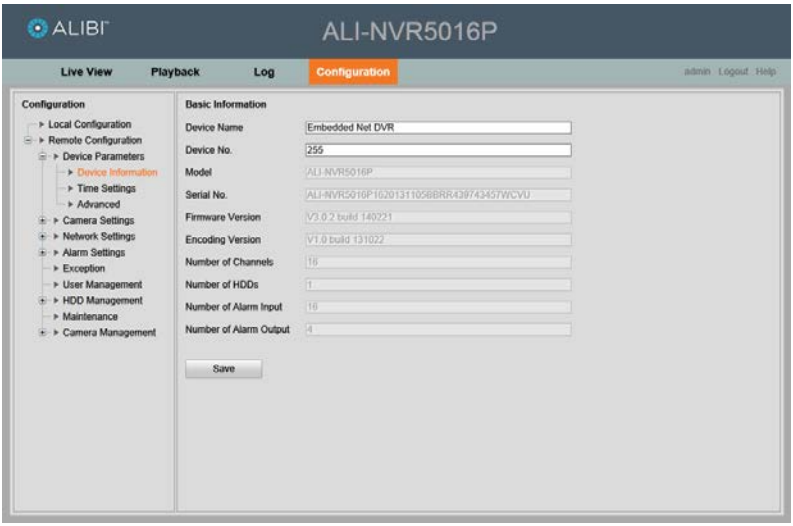

ALIBI
ALI-NVR5016P
Live View
Playback
Log
Configuration
admin Logout Help
No. Time Major Type Minor Type Channel No. Local/Remote User Remote Host IP
1 2014-02-27 00:00:31 Exception IP Camera Disconnect 0.0.0.0
2 2014-02-27 00:02:09 Exception IPC Motion Analysis Exception 0.0.0.0
3 2014-02-27 00:02:17 Information Start Recording D4 0.0.0.0
4 2014-02-27 00:02:31 Information Stop Recording D4 0.0.0.0
5 2014-02-27 00:02:31 Exception IP Camera Disconnect 0.0.0.0
6 2014-02-27 00:02:34 Exception IPC Motion Analysis Exception 0.0.0.0
7 2014-02-27 00:04:07 Exception IPC Motion Analysis Exception 0.0.0.0
8 2014-02-27 00:04:24 Exception IPC Motion Analysis Exception 0.0.0.0
9 2014-02-27 00:04:39 Exception IP Camera Disconnect 0.0.0.0
10 2014-02-27 00:04:40 Exception IPC Motion Analysis Exception 0.0.0.0
11 2014-02-27 00:04:56 Exception IPC Motion Analysis Exception 0.0.0.0
12 2014-02-27 00:05:11 Exception IPC Motion Analysis Exception 0.0.0.0
13 2014-02-27 00:05:28 Exception IPC Motion Analysis Exception 0.0.0.0
14 2014-02-27 00:06:27 Exception IP Camera Disconnect 0.0.0.0
15 2014-02-27 00:08:26 Exception IP Camera Disconnect 0.0.0.0
16 2014-02-27 00:08:50 Information System Running State 0.0.0.0
17 2014-02-27 00:09:00 Information System Running State 0.0.0.0
18 2014-02-27 00:10:26 Exception IP Camera Disconnect 0.0.0.0
Total 2000 Items First Page Prev Page 1/20 Next Page Last Page
Search Log
Major Type
All Types
Minor Type
All Types
Start Time
2014-02-27 00:00:00
End Time
2014-03-04 23:59:59
Search
Save Log

Log reports can be saved in either text or Excel formats by clicking the **Save Log** icon.

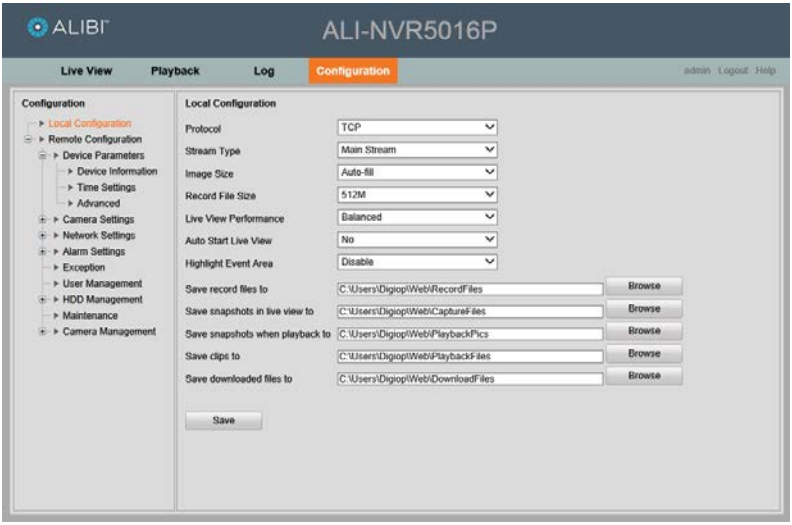
## 10.5 Remote Configuration screen

Open the Configuration screen by clicking **Configuration** in the screen header. The Configuration menu enables you to view the NVR configuration and make configuration changes. The User Name you use to login to the NVR must have administrative privileges to change the NVR configuration.

Options in the configuration menu are identical to those in the embedded NVR **Menu** system. For more information on how to use these options, refer to the NVR **Menu** descriptions in previous sections of this manual. After making configuration changes click **Save** to apply your changes.




The location of local files is defined on the **Configuration | Local Configuration** screen.



# SECTION 11
# Cleaning

Clean the camera lens and IR lamp shield with a mild glass cleaning solution and a lint free cloth.

- Remove all foreign particles, such as plastic or rubber materials, attached to the camera housing. These may cause damage to the surface over time.
- Dust can be removed from equipment by wiping it with a soft damp cloth. To remove stains, gently rub the surface with a soft cloth moistened with a mild detergent solution, then rinse and dry it with a soft cloth.

*Do not use benzene, thinner or other chemical products on the camera assembly; these may dissolve the paint and promote damage of the surfaces. Before using any chemical product, read the instructions carefully.*

# SECTION 12
# Specifications

| Model | ALI-NVR5016P | ALI-NVR5032P |
|---|---|---|
| Number of Channels Supported | 16 | 32 |
| Compression Format | H.264 | |
| Recording Performance | 80 Mbps max | 160 Mbps max |
| Remote Viewing Output Capacity | 240 Mbps max | 160 Mbps max |
| Recording Type | Continuous, Schedule, Alarm, Motion Detection | Continuous, Schedule, Alarm, Motion Detection |
| Supported IP Camera Resolution | 5MP / 3MP / 1080p / UXGA / 720p / VGA / 4CIF / DCIF / 2CIF / CIF / QCIF | |
| Supported Playback Resolution | 5MP / 3MP / 1080p / UXGA / 720p / VGA / 4CIF / DCIF / 2CIF / CIF / QCIF | |
| Synchronous Playback | 16-ch, 720P / 8-ch, 1080P / 1-ch, 5 MP | 16-ch, 720P / 8-ch, 1080P / 1-ch, 5 MP |
| Video Output | VGA, HDMI, CVBS | |
| Video Output Formats | 1 channel (HDMI / VGA), resolution: 1920×1080P / 60 Hz,1600×1200 / 60 Hz, 1280×1024 / 60 Hz, 1280×720 / 60 Hz, 1024×768 / 60 Hz, 1 channel (CVBS), resolution: 704×480 | |
| Audio Input | 1-ch, BNC (2.0 Vp-p, 1 kΩ) | |
| Audio Output | 2-ch, BNC (Linear, 600 Ω) | |
| Export Formats | MP4 | |
| Ethernet | 1x Gigabit RJ-45 self-adaptive Ethernet interface,<br>16 independent 10 /100 Mbps PoE Ethernet interfaces (200 W max output) | |
| USB | 3x USB 2.0 | |
| Hard Drive Interface | 4x SATA | |
| Hard Drive Capacity | 4x HDDs max., up to 4TB capacity per HDD | |
| eSATA | 1x eSATA interface | |
| Serial Interface | 1x RS-232; 1x RS-485 | |
| Alarm Input | 16 | |
| Alarm Output | 4 | |
| Operating System | Embedded Linux | |
| Security | Password Protection | |
| Protocols | IPv4, TCP/IP, UDP, HTTP, UPnP, RTSP/RTP/RTCP, SMTP, FTP, DHCP, NTP, DNS, ONVIF, HTTP multipart | |
| Power Requirements | 100 ~ 240 Vac, 6.3 A, 50 ~ 60 Hz | |
| Power Consumption | ≤ 40 W | ≤ 45 W |
| Weight | 8.8 lbs. (4 Kg) without HDD(s) | |
| Dimensions (W × D × H) | 17.5" × 15.3" × 2.8" (445 mm × 390 mm ×70 mm) | |
| Operating Temperature | 14 °F ~ 131 °F (-10 °C ~ +55 °C) | |

## SECTION 12: SPECIFICATIONS

| Model | ALI-NVR5016P | ALI-NVR5032P |
|---|---|---|
| Color / Material | Black | |
| Material | Aluminum | |
| Approvals | CE, FCC, RoHS | |
| Remote Client System Requirements | | |
| Operating System | Microsoft Windows 2000, 2003, XP, Vista, 7, 8 (32-bit and 64-bit version) / Linux 2.6+ / Apple MacOS X 10.5 (Intel x86 only), 10.6 and 10.7 | |
| Web Browser | Microsoft Internet Explorer 8.0, 9.0, 10, and 11 (32-bit version), Mozilla Firefox 13 and higher and 3.6, Safari 5 and higher, Google Chrome | |
| Software Requirements | WebCompnent Installation | |
| Mobile Client OS Platform | iOS, Android (Alibi Witness) | |

# APPENDIX A Glossary

**Dual Stream**: Dual stream is a technology used to record high resolution video locally while transmitting a lower resolution stream over the network. The two streams are generated by the NVR, with the main stream having a maximum resolution of 4CIF and the sub-stream having a maximum resolution of CIF.

**HDD**: Acronym for Hard Disk Drive. A storage medium which stores digitally encoded data on platters with magnetic surfaces.

**DHCP**: Dynamic Host Configuration Protocol (DHCP) is a network application protocol used by devices (DHCP clients) to obtain configuration information for operation in an Internet Protocol network.

**HTTP**: Acronym for Hypertext Transfer Protocol. A protocol to transfer hypertext request and information between servers and browsers over a network

**DDNS**: Dynamic DNS is a method, protocol, or network service that provides the capability for a networked device, such as a router or computer system using the Internet Protocol Suite, to notify a domain name server to change, in real time (ad-hoc) the active DNS configuration of its configured hostnames, addresses or other information stored in DNS.

**NTP**: Acronym for Network Time Protocol. A protocol designed to synchronize the clocks of computers over a network.

**NVR**: Acronym for Network Video Recorder. An NVR can be a PC-based or embedded system used for centralized management and storage for IP cameras, IP Domes and other DVRs.

**PTZ**: Acronym for Pan, Tilt, Zoom. PTZ cameras are motor driven systems that allow the camera to pan left and right, tilt up and down and zoom in and out.

**USB**: Acronym for Universal Serial Bus. USB is a plug-and-play serial bus standard to interface devices to a host computer.

# APPENDIX B FAQ

**Q Why does my NVR make a beeping sound after booting?**

A The possible reasons for the warning beep are:

a. There is no HDD installed in the NVR.

b. The HDD is not initialized.

c. HDD error

To cancel the beeping sound and use the NVR without HDD, open the **Configuration | Exception** menu and de-select the Audible Warning.

**Q Why does the NVR seem unresponsive when operating with the IR remote control?**

A Please read through the section Using the IR Remote Control, then check:

a. Nothing is blocking the IR sensor on the front of the NVR.

b. The batteries are installed correctly in the remote, making sure that the polarities of the batteries are not reversed.

c. The battery power is not depleted.

d. The remote has not been tampered with.

e. There are no fluorescent lamps in use nearby.

**Q Why does the PTZ seem unresponsive?**

A The RS-485 interface and PTZ controls are not supported on this NVR.

**Q Why is there no video recorded after setting the motion detection?**

A If there are no recorded video after setting the motion detection, please check the guidelines in Chapter 5.

a. The recording schedule is setup correctly. See **Menu | Record | Schedule**.

b. The motion detection area is configured correctly. See **Menu | Cameras | Motion**.

c. The channels are being triggered for motion detection. See **Menu | Cameras | Motion**, check the Enable Motion Detection option, the Sensitivity setting, motion detection zones.

**Q Why doesn't the NVR detect my USB export device for exporting recorded files?**

A There's a chance that the NVR and your USB device is not compatible. Please refer to our company's website to view a list of compatible devices.

# APPENDIX C HDD Installation

The following procedures illustrate hard disk drive (HDD) installation in NVR without an HDD, and installation of a second HDD. If you purchased your NVR without a HDD, or you want to replace the HDD installed in your NVR, use this procedure as a guideline.

## C.1 NVR compatible HDDs

For the best performance of your system, install only a high-reliability security grade HDD. Security grade HDDs are designed to stream video efficiently.

The NVR can accommodate up to 4 HDDs, each with a capacity up to 4TB.

## C.2 HDD Installation

The NVR will accommodate up to four internal HDDs. The HDD attaches to the chassis with four screws inserted up through the underside of the chassis. The HDD mounting screws and HDD cables are provided with your HDD.

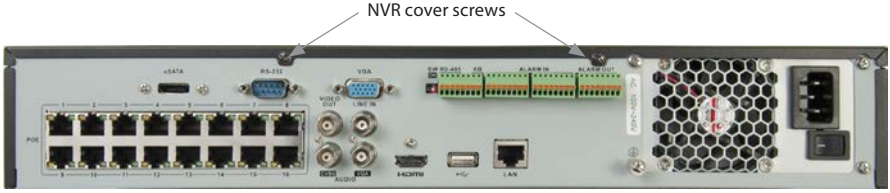
All HDDs installed in the chassis must be initialized using the embedded system software. If an HDD was pre-installed in your NVR, it was already initialized.

**CAUTION**

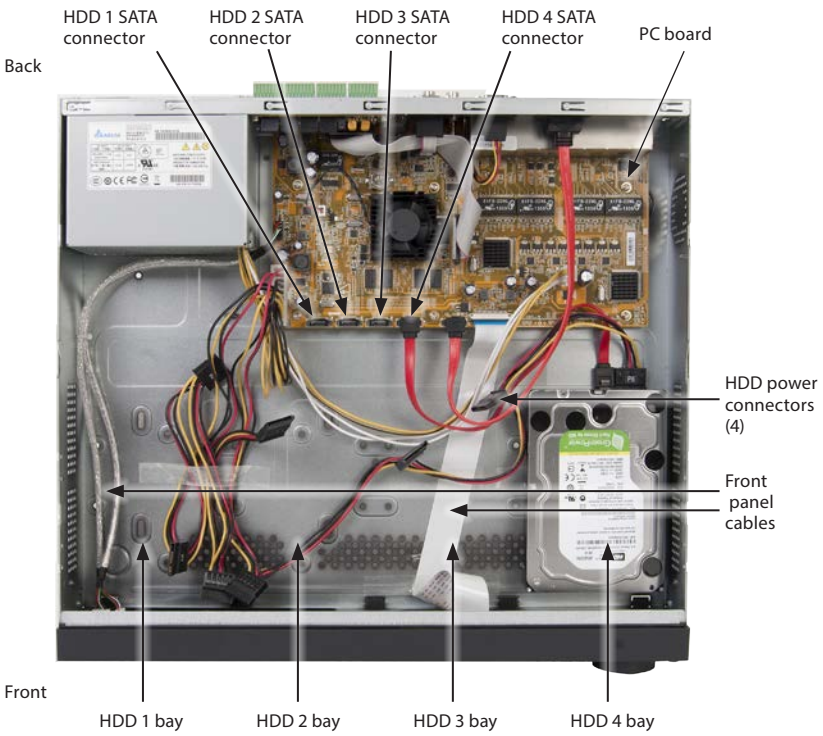
*Follow recommended electrostatic discharge (ESD) guidelines while performing this procedure. Install the HDD in a static-free environment, wearing a certified ESD wrist strap. If a static free environment and ESD wrist strap is not available, touch the bare metal of the DVR chassis frequently when installing the drive to dissipate the static charge naturally generated on your skin and clothing and avoid touching electronic components.*

1. Power off the NVR, if necessary, then disconnect the power cord from the back of the NVR.

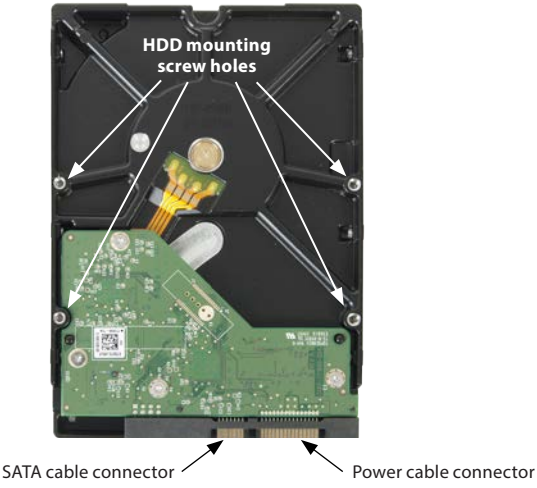
2. To remove the top cover from the NVR, removing the two cover screws on the back of the chassis, slide the cover toward the back of the chassis, then lifting it off.



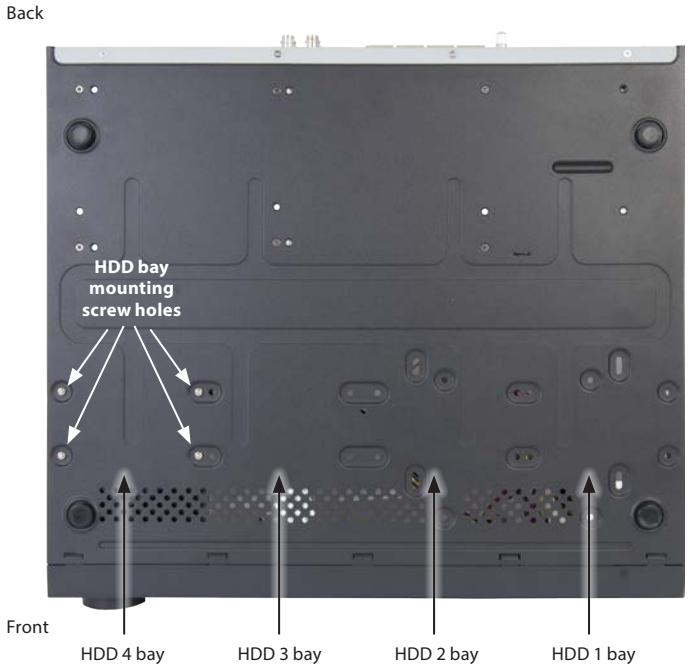

3. Orient the chassis and HDD as shown in the picture below. Become familiar with the locations of the items identified in the picture.




Shown are the HDD mounting screw locations and the SATA and power cable connectors on the HDD.



The photo below shows the locations of the HDD mounting screws for HDD 1 through HDD 4.




4. Orient the chassis top up.

**CAUTION**

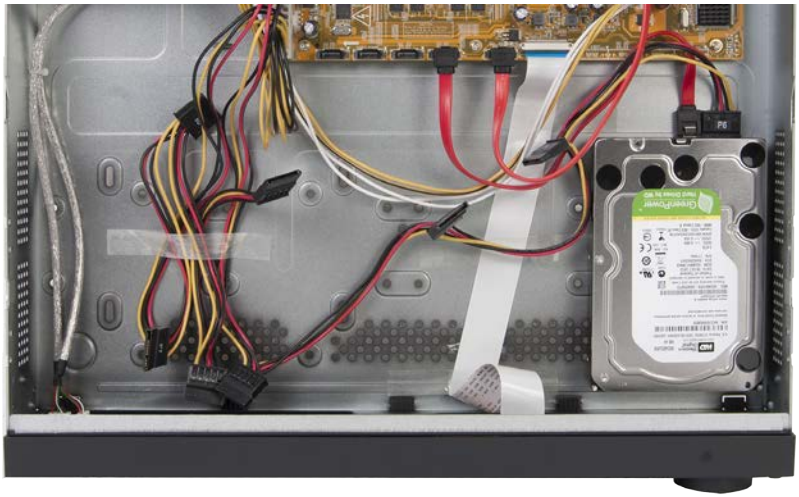
*Follow recommended electrostatic discharge (ESD) guidelines while performing this procedure. Install the HDD in a static-free environment, wearing a certified ESD wrist strap. If a static free environment and ESD wrist strap is not available, touch the bare metal of the DVR chassis frequently when installing the drive to dissipate the static charge naturally generated on your skin and clothing and avoid touching electronic components.*

5. To install an HDD, first attach a SATA cable and a power cable to the connectors on the HDD, then attach the other end of the SATA cable to the HDD SATA connector on the PC board. When installing additional HDDs in the chassis, install HDD 1 first, then HDD 2, HDD 3, and finally HDD 4. (**NOTE**: The HDD number is determined by the SATA connector on the PC board that it attaches to.)

**CAUTION**

*When installing HDDs, be careful not to pinch or in any way damage the front panel ribbon cable. This cable is normally routed through the HDD 2 bay.*

6. Set the HDD in a bay in the chassis as shown below for HDD 4, with the HDD connectors toward the back of the chassis. Align the mounting screw holes on the underside of the HDD with the screw holes in the bottom of the chassis.



7. While holding the HDD in place in the chassis, carefully turn over the HDD together with the chassis and install the four HDD mounting screws provided to secure the HDD in place. Tighten the screws until snug. Be careful not to overtighten the screws.

8. Turn the chassis top side up and verify that the HDD cables connectors are seated properly at both ends.

9. Install additional HDDs, as needed, following steps 4 - 8 above.

*NVR with 4 HDDs*

10. Reinstall the NVR cover.

11. After you power on the NVR with newly installed HDDs, they must be initialized before they can be used. Refer to the procedure in:

    "2.5.1 Using the Wizard for basic configuration setup" on page 14 or,
    "2.9.1 Checking HDD status." on page 38

# APPENDIX D NVR Compatible Cameras

Following is a list of IP cameras shown to be compatible with your NVR. Other cameras not listed here may also compatible. Consult with your technical support organization for more information.

**NOTE** **ONVIF compatibility** *refers to the camera can be supported both when it uses the ONVIF protocol and its private protocols.*
**Only ONVIF** *is supported refers to the camera can only be supported when it uses the ONVIF protocol.*

| IP Camera Manufacturer or Protocol | Model | Version | Max. Resolution | Sub-stream | Audio |
|---|---|---|---|---|---|
| 3S Vision | N1011 | V1.09_STD-1 or newer | 2560 x 1920 | √ | × |
| | N1072 | V1.09_STD-1 or newer | 1600 x 1200 | √ | × |
| | N3011 | V1.04_STD-1 or newer | 2560 x 1920 | √ | × |
| | N3072 | V1.08_STD-1 or newer | 1600 x 1200 | √ | × |
| | N6013 | V1.04_STD-1 or newer | 2560 x 1920 | √ | × |
| | N6076 | V1.07_STD-1 or newer | 1600 x 1200 | √ | × |
| | N6078 | V1.02_STD-1 or newer | 1600 x 1200 | √ | × |
| | N6079 | V1.02_STD-1 or newer | 1600 x 1200 | √ | × |
| | N8072 | V1.08_STD-1 or newer | 1600 x 1200 | √ | × |
| | N9012 | V1.04_STD-1 or newer | 2560 x 1920 | √ | × |
| | N9018 | V1.01_STD-1 or newer | 1920 x 1080 | √ | × |
| | N9071 | V1.10_STD-1 or newer | 1600 x 1200 | √ | × |
| | N9073 | V1.02_STD-1 or newer | 1600 x 1200 | √ | × |
| | N9074 | V1.02_STD-1 or newer | 1600 x 1200 | √ | × |
| ACTI® | TCM4301-10D-X-00083 | A1D-310-V4.12.09-AC | 1280×1024 | × | √ |
| | TCM5311-11D-X-00023 | A1D-310-V4.12.09-AC | 1280×960 | × | √ |
| | TCM3401-09L-X-00227 | A1D-220-V3.13.16-AC | 1280×1024 | × | × |
| Alibi™ | ALI-IPV3013R | V5.1.0 build 140120 or newer | 1280×960 | √ | × |
| | ALI-IPV3030R | V5.1.0 build 140120 or newer | 2048×1536 | √ | × |
| | ALI-IPU3013R | V5.1.0 build 140120 or newer | 1280×960 | √ | × |
| | ALI-IPU3030R | V5.1.0 build 140120 or newer | 2048×1536 | √ | × |

| IP Camera Manufacturer or Protocol | Model | Version | Max. Resolution | Sub-stream | Audio |
|---|---|---|---|---|---|
| ARECONT™ | AV8185DN | 65172 | 1600×1200 | × | × |
| | AV1305M | 65175 | 1280×1024 | √ | × |
| | AV2155 | 65143 | 1600×1200 | √ | × |
| | AV2815 | 65220 | 1920×1080 | √ | × |
| | AV3105M | 65175 | 1920×1080 | √ | × |
| | AV5105 | 65175 | 1920×1080 | √ | × |
| AXIS® | M1114 | 5.09.1 | 1024×640 | √ | × |
| | M3011 (ONVIF compatibility) | 5.21 | 704×576 | √ (Only AXIS is supported) | × |
| | M3014 (ONVIF compatibility) | 5.21.1 | 1280×800 | √ | × |
| | P3301 (ONVIF compatibility) | 5.11.2 | 768×576 | √ | √ (Only AXIS is supported) |
| | P3304 (ONVIF compatibility) | 5.20 | 1440×900 | √ | √ (Only AXIS is supported) |
| | P3343 (ONVIF compatibility) | 5.20.1 | 800×600 | √ | √ (Only AXIS is supported) |
| AXIS® | P3344 (ONVIF compatibility) | 5.20.1 | 1440×900 | √ | √ (Only AXIS is supported) |
| | P5532 | 5.15 | 720×576 | √ | × |
| | Q7404 | 5.02 | 720×576 | √ | √ |
| | P1346 | 5.40.9.2 | 2048×1536 | √ | √ |
| | M3014 | 5.21.1 | 1280×800 | √ | × |
| Bosch (ONVIF compatibility) | AutoDome Jr 800HD | 39500450 | 1920×1080 | × | √ |
| | NBC 265 P | 07500452 | 1280×720 | × | √ |
| | Dinion NBN-921-P | 10500453 | 1280×720 | × | √ |
| Brickcom | CB-500Ap (ONVIF compatibility) | V3.2.1.3 | 1920×1080 | × | √ |
| | WFB-100Ap | V3.1.0.9 | 1280×800 | × | √ |
| Canon® | VB-H410 (ONVIF compatibility) | Ver.+1.0.0 | 1280×960 | × | √ |

## APPENDIX D: NVR COMPATIBLE CAMERAS

| IP Camera Manufacturer or Protocol | Model | Version | Max. Resolution | Sub-stream | Audio |
|---|---|---|---|---|---|
| Hikvision® | DS-2CD883F-E | V5.1.0 build 131202 | 2560×1920 | √ | √ |
| | DS-2CD783F-E(I)<br>DS-2CD783F-E(I)(Z) | V5.1.0 build 131202 | 2560×1920 | √ | √ |
| | DS-2CD8283F-E(I) | V5.1.0 build 131202 | 2560×1920 | √ | √ |
| | DS-2CD886BF-E | V4.0.3 build 120913 | 2560×1920 | √ | √ |
| | DS-2CD886MF-E | V4.0.3 build 120913 | 2560×1920 | √ | √ |
| | DS-2CD854F-E | V5.1.0 build 131202 | 2048×1536 | √ | √ |
| | DS-2CD754F-E(I)<br>DS-2CD754FWD-EIZ | V5.1.0 build 131202 | 2048×1536 | √ | √ |
| | DS-2CD8254F-E(I) | V5.1.0 build 131202 | 2048×1536 | √ | √ |
| | DS-2CD7254F-EZH | V5.1.0 build 131202 | 2048×1536 | √ | √ |
| | DS-2CD8254FWD-EIZ | V5.1.0 build 131202 | 1920×1080 | √ | √ |
| | DS-2CD754FWD-E(I) | V5.1.0 build 131202 | 1920×1080 | √ | √ |
| | DS-2CD7254FWD-EIZH | V5.1.0 build 131202 | 1920×1080 | √ | √ |
| | DS-2CD7253F-EZH<br>DS-2CD753F-E(I) | V5.1.0 build 131202 | 1600×1200 | √ | √ |
| | DS-2CD853F-E | V5.1.0 build 131202 | 1600×1200 | √ | √ |
| | DS-2CD8153F-E<br>DS-2CD8253F-E(I) | V5.1.0 build 131202 | 1600×1200 | √ | √ |
| | DS-2CD7153-E | V5.1.0 build 131202 | 1600×1200 | √ | × |
| | DS-2CD876BF-E | V4.0.3 build 120913 | 1600×1200 | √ | √ |
| | DS-2CD876MF-E | V4.0.3 build 120913 | 1600×1200 | √ | √ |
| | DS-2CD877BF | V4.0.3 build 120913 | 1920×1080 | √ | √ |
| | DS-2CD855F-E | V5.1.0 build 131202 | 1920×1080 | √ | √ |
| | DS-2CD8255F-EIZ | V5.1.0 build 131202 | 1920×1080 | √ | √ |
| | DS-2CD752MF-E<br>DS-2CD852MF-E<br>DS-2CD852F-E | V2.0 build 110614 | 1600×1200 | √ | √ |
| | | V2.0 build 110426 | | | |
| | | V2.0 build 100521 | | | |
| | DS-2CD862MF-E | V2.0 build 110614 | 1280×960 | √ | √ |
| | | V2.0 build 110426 | | | |
| | | V2.0 build 100521 | | | |

| IP Camera Manufacturer or Protocol | Model | Version | Max. Resolution | Sub-stream | Audio |
|---|---|---|---|---|---|
| Hikvision® | DS-2CD8464F-EI | V5.1.0 build 131202 | 1280×960 | √ | √ |
| | DS-2CD863PF/NF-E | V5.1.0 build 131202 | 1280×960 | √ | √ |
| | DS-2CD763PF/NF-E | V5.1.0 build 131202 | 1280×960 | √ | √ |
| | DS-2CD763PF/NF-EI | V5.1.0 build 131202 | 1280×960 | √ | √ |
| | DS-2CD7263PF/NF-EZH | V5.1.0 build 131202 | 1280×960 | √ | √ |
| | DS-2CD7164-E | V5.1.0 build 131202 | 1280×720 | √ | × |
| | DS-2CD864FWD-E | V5.1.0 build 131202 | 1280×720 | √ | √ |
| | DS-2CD764FWD-E(I) | V5.1.0 build 131202 | 1280×720 | √ | √ |
| | DS-2CD8264FWD-E(I) | V5.1.0 build 131202 | 1280×720 | √ | √ |
| | DS-2CD8264FWD-EZ | V5.1.0 build 131202 | 1280×720 | √ | √ |
| | DS-2CD2012-I | V5.1.0 build 131202 | 1280×960 | √ | × |
| | DS-2CD2112-I | V5.1.0 build 131202 | 1280×960 | √ | × |
| | DS-2CD2212-I | V5.1.0 build 131202 | 1280×960 | √ | × |
| | DS-2CD2312-I | V5.1.0 build 131202 | 1280×960 | √ | × |
| | DS-2CD2612-I | V5.1.0 build 131202 | 1280×960 | √ | × |
| | DS-2CD2712-I | V5.1.0 build 131202 | 1280×960 | √ | × |
| | DS-2CD2412-I | V5.1.0 build 131202 | 1280×960 | √ | √ |
| | DS-2CD2512-I | V5.1.0 build 131202 | 1280×960 | √ | √ |
| | DS-2CD2612-IS | V5.1.0 build 131202 | 1280×960 | √ | √ |
| | DS-2CD2712-IS | V5.1.0 build 131202 | 1280×960 | √ | √ |
| | DS-2CD2010-I | V5.1.0 build 131202 | 1280×960 | √ | √ |
| | DS-2CD2110-I | V5.1.0 build 131202 | 1280×960 | √ | √ |
| | DS-2CD2210-I | V5.1.0 build 131202 | 1280×960 | √ | √ |
| | DS-2CD2310-I | V5.1.0 build 131202 | 1280×960 | √ | √ |
| | DS-2CD2410-I | V5.1.0 build 131202 | 1280×720 | √ | √ |
| | DS-2CD2810F | V5.1.0 build 131202 | 1280×960 | √ | √ |
| | DS-2CD2032-I | V5.1.0 build 131202 | 2048×1536 | √ | × |
| | DS-2CD2132-I | V5.1.0 build 131202 | 2048×1536 | √ | × |
| | DS-2CD2232-I | V5.1.0 build 131202 | 2048×1536 | √ | × |

## APPENDIX D: NVR COMPATIBLE CAMERAS

| IP Camera Manufacturer or Protocol | Model | Version | Max. Resolution | Sub-stream | Audio |
|---|---|---|---|---|---|
| Hikvision® | DS-2CD2332-I | V5.1.0 build 131202 | 2048×1536 | √ | × |
| | DS-2CD2632-I | V5.1.0 build 131202 | 2048×1536 | √ | × |
| | DS-2CD2732-I | V5.1.0 build 131202 | 2048×1536 | √ | × |
| | DS-2CD2432-I | V5.1.0 build 131202 | 2048×1536 | √ | √ |
| | DS-2CD2532-I | V5.1.0 build 131202 | 2048×1536 | √ | √ |
| | DS-2CD2632-IS | V5.1.0 build 131202 | 2048×1536 | √ | √ |
| | DS-2CD2732-IS | V5.1.0 build 131202 | 2048×1536 | √ | √ |
| | DS-2CD4012F<br>DS-2CD4212F-IS<br>(2.8-12mm)<br>DS-2CD4112F-I<br>(2.8-12mm)<br>DS-2CD4312F-IS | V5.1.0 build 131202 | 1280×960 | √ | √ |
| | DS-2CD4212F-I<br>(2.8-12mm) | V5.1.0 build 131202 | 1280×960 | √ | × |
| | DS-2CD6213F | V5.1.0 build 131202 | 1280×960 | √ | × |
| | DS-2CD6223F | V5.1.0 build 131202 | 1920×1080 | √ | × |
| | DS-2CD4024F<br>DS-2CD4124F-I<br>(2.8-12mm)<br>DS-2CD4224F-IS<br>DS-2CD4324F-IS | V5.1.0 build 131202 | 1920×1080 | √ | √ |
| | DS-2CD4224F-I | V5.1.0 build 131202 | 1920×1080 | √ | × |
| | DS-2CD4026FWD | V5.1.0 build 131202 | 1920×1080 | √ | √ |
| | DS-2CD6026FHWD | V5.1.0 build 131202 | 1920×1080 | √ | √ |
| | DS-2CD4032FWD<br>DS-2CD4132FWD-I<br>(2.8-12mm)<br>DS-2CD4232FWD-IS<br>(2.8-12mm)<br>DS-2CD4332FWD-IS | V5.1.0 build 131202 | 2048×1536 | √ | √ |
| | DS-2CD4232FWD-I<br>(2.8-12mm) | V5.1.0 build 131202 | 2048×1536 | √ | × |
| | DS-2CD4032FHWD<br>DS-2CD4132FHWD-I<br>DS-2CD4332FHWD-IS | V5.1.0 build 131202 | 2048×1536 | √ | √ |
| | DS-2CD4332FHWD-I | V5.1.0 build 131202 | 2048×1536 | √ | × |

| IP Camera Manufacturer or Protocol | Model | Version | Max. Resolution | Sub-stream | Audio |
|---|---|---|---|---|---|
| Hikvision® | DS-2CD4012FWD<br>DS-2CD4112FWD-I<br>DS-2CD4212FWD-IS<br>DS-2CD4312FWD-IS | V5.1.0 build 131202 | 2048×1536 | √ | √ |
| | DS-2CD4026FWD-SDI | V5.1.0 build 131202 | 2048×1536 | √ | √ |
| | DS-2CD4212FWD-I | V5.1.0 build 131202 | 2048×1536 | √ | × |
| | DS-2CD6412FWD | V5.1.0 build 131202 | 2048×1536 | √ | √ |
| | DS-2CD6233F | V5.1.0 build 131202 | 2048×1536 | √ | × |
| | DS-2CD6233F-SDI | V5.1.0 build 131202 | 2048×1536 | √ | × |
| | DS-2CD7133F-E | V5.1.0 build 131202 | 640×480 | √ | × |
| | DS-2CD733F-E(I)<br>DS-2CD7233F-EZH | V5.1.0 build 131202 | 640×480 | √ | √ |
| | DS-2CD8133F-E<br>DS-2CD8233F-EI<br>DS-2CD8233F-E<br>DS-2CD833F-E<br>DS-2CD8433F-EI | V5.1.0 build 131202 | 640×480 | √ | √ |
| | DS-2CD802NF<br>DS-2CD812PF<br>DS-2CD832F<br>DS-2CD892PF/NF | V2.0 build 090522 | 704×576 | √ | √ |
| | | V2.0 build 090715 | | | |
| | | V2.0 build 110301 | | | |
| | DS-2CD893PF(WD)-E | V5.1.0 build 131202 | 704×576 | √ | √ |
| | DS-2CD793PF(WD)-E(I) | V5.1.0 build 131202 | 704×576 | √ | √ |
| | DS-2CD893NF(WD)-E | V5.1.0 build 131202 | 704×576 | √ | √ |
| | DS-2CD793NF(WD)-E(I) | V5.1.0 build 131202 | 704×576 | √ | √ |
| | DS-2CD9121 | V3.4.2 build 130718 | 1600×1200 | × | × |
| | iDS-2CD9121 | V3.4.2 build 130718 | 1600×1200 | × | × |
| | DS-2CD9121A | V3.5.0 build 130906 | 1600×1200 | × | × |
| | iDS-2CD9121A | V3.5.0 build 130906 | 1600×1200 | × | × |
| | DS-2CD9122 | V3.5.0 build 131012 | 1920×1080 | × | × |
| | DS-2CD9122-H | V3.5.0 build 131018 | 1920×1080 | × | × |
| | DS-2CD9131 | V3.5.0 build 130906 | 2048×1536 | × | × |
| | iDS-2CD9131 | V3.5.0 build 130906 | 2048×1536 | × | × |

## APPENDIX D: NVR COMPATIBLE CAMERAS

| IP Camera Manufacturer or Protocol | Model | Version | Max. Resolution | Sub-stream | Audio |
|---|---|---|---|---|---|
| Hikvision® | DS-2CD9111(B) | V3.5.0 build 130906 | 1360×1024 | × | × |
| | DS-2CD9151A<br>iDS-2CD9151A | V3.5.0 build 130906 | 2448×2048 | × | × |
| | DS-2CD9182 | V3.3.1 build 130321 | 3296×2472 | × | × |
| | DS-2CD9152<br>iDS-2CD9152 | V3.5.0 build 131012 | 2560×1920 | × | × |
| | DS-2CD9152-H | V3.5.0 build 130814 | 2592×2048 | × | × |
| | iDS-2CD9152-H | V3.5.0 build 130814 | 2592×2048 | × | × |
| | iDS-2CD9282 | V3.5.0 build 130810 | 3296*2472 | × | × |
| | DS-2CD9131-K | V3.5.1 build 130905 | 2048*1536 | × | × |
| | DS-2CD9152-HK | V3.5.1 build 130905 | 2592*2048 | × | × |
| | DS-2CD966 (B)<br>DS-2CD966-V(B) | V3.1.0 build 120423 | 1360×1024 | × | × |
| | DS-2CD976(B)<br>DS-2CD976-V(B) | V3.1.0 build 120423 | 1600×1200 | × | × |
| | DS-2CD976(C)<br>DS-2CD976-V(C) | V3.1.0 build 120423 | 1600×1200 | × | × |
| | DS-2CD977(B)<br>DS-2CD977(C) | V3.1.0 build 120423 | 1920×1080 | × | × |
| | DS-2CD986A(B)<br>DS-2CD986A(C) | V3.1.0 build 120423 | 2448×2048 | × | × |
| | DS-2CD986C(B) | V2.3.6 build 120401 | 2560×1920 | × | × |
| | DS-2DF7274-A/D/AF | V5.1.4 build 131219 | 1280×960 | √ | √ |
| | DS-2DM7274-A | V5.1.4 build 131219 | 1280×960 | √ | √ |
| | DS-2DF5274-A/D/A3/<br>D3/AF/A3F | V5.1.4 build 131219 | 1280×960 | √ | √ |
| | DS-2DM5274-A/A3 | V5.1.4 build 131219 | 1280×960 | √ | √ |
| | DS-2DF7284-A/D/AF<br>DS-2DF7286-A/D/AF | V5.1.4 build 131219 | 1920×1080 | √ | √ |
| | DS-2DF5284-A/D/A3/<br>D3/AF/A3F<br>DS-2DF5286-A/D/A3/<br>D3/AF/A3F | V5.1.4 build 131219 | 1920×1080 | √ | √ |

| IP Camera Manufacturer or Protocol | Model | Version | Max. Resolution | Sub-stream | Audio |
|---|---|---|---|---|---|
| | DS-2DE5172-A/A3<br>DS-2DE5174-A/AE/AE3/A3/D/D3<br>DS-2DE5176-A/AE | V5.1.0 build 131203 | 1280×960 | √ | √ |
| | DS-2DE7172-A<br>DS-2DE7174-A/AE/D<br>DS-2DE7176-A/AE | V5.1.0 build 131203 | 1280×960 | √ | √ |
| | DS-2DE5182-A/A3<br>DS-2DE5184-A/AE/AE3/A3/D/D3<br>DS-2DE5186-A/AE | V5.1.0 build 131203 | 1920×1080 | √ | √ |
| | DS-2DE7182-A<br>DS-2DE7184-A/AE/D<br>DS-2DE7186-A/AE | V5.1.0 build 131203 | 1920×1080 | √ | √ |
| | DS-2DF1-5702<br>DS-2DF1-572 | V4.1.6 build 130422 | 1280×720 | √ | √ |
| | DS-2DM1-5702<br>DS-2DM1-572<br>DS-2DM1-5732 | V4.1.6 build 130422 | 1280×720 | √ | √ |
| | DS-2DF1-772<br>DS-2DM1-772 | V4.1.6 build 130422 | 1280×720 | √ | √ |
| | DS-2DF1-77A<br>DS-2DF1-570A<br>DS-2DF1-573A<br>DS-2DF1-57A | V4.1.6 build 130422 | 1280×720 | √ | √ |
| | DS-2DF1-5734D<br>DS-2DF1-574D | V4.1.6 build 130422 | 1280×960 | √ | √ |
| | DS-2DM1-574D<br>DS-2DM1-5734D | V4.1.6 build 130422 | 1280×960 | √ | √ |
| | DS-2DF1-774D | V4.1.6 build 130422 | 1280×960 | √ | √ |
| | DS-2DM1-774D | V4.1.6 build 130422 | 1280×960 | √ | √ |
| | DS-2DF1-584D | V4.1.6 build 130422 | 1920×1080 | √ | √ |
| | DS-2DF1-784D | V4.1.6 build 130422 | 1920×1080 | √ | √ |
| | DS-2DF1-518 | V3.1.6 build 20130322 | 704×576 | √ | √ |
| | DS-2DM1-718 | V3.1.6 build 20130322 | 704×576 | √ | √ |
| | DS-2DM1-518 | V3.1.6 build 20130322 | 704×576 | √ | √ |
| | DS-2DF1-718 | V3.1.6 build 20130322 | 704×576 | √ | √ |
| | DS-2DF1-514 | V3.1.6 build 20130322 | 704×576 | √ | √ |
| | DS-2DF1-714 | V3.1.6 build 20130322 | 704×576 | √ | √ |
| | DS-2DF1-402 | V3.1.6 build 20130322 | 704×576 | √ | √ |

## APPENDIX D: NVR COMPATIBLE CAMERAS

| IP Camera Manufacturer or Protocol | Model | Version | Max. Resolution | Sub-stream | Audio |
|---|---|---|---|---|---|
| Hikvision® | DS-2DF1-402N | V3.1.6 build 20130322 | 704×576 | √ | √ |
| | DS-2ZCN2006<br>DS-2ZCN3006 | V5.0.2 build 130926 | 1280×960 | √ | √ |
| | DS-2ZMN2006<br>DS-2ZMN3006 | V5.0.2 build 130926 | 1280×960 | √ | √ |
| | DS-2ZCN2007<br>DS-2ZCN3007 | V5.0.2 build 130926 | 1920×1080 | √ | √ |
| | DS-2ZMN2007<br>DS-2ZMN3007<br>DS-2ZMN0407 | V5.0.2 build 130926 | 1920×1080 | √ | √ |
| | DS-6501HFI<br>DS-6502HFI<br>DS-6504HFI | V1.0.1 build 130607 | 704×576 | √ | √ |
| | DS-6501HFI-SATA<br>DS-6502HFI-SATA<br>DS-6504HFI-SATA | V1.0.1 build 130607 | 704×576 | √ | √ |
| | DS-6508HFI<br>DS-6516HFI | V1.0.1 build 130607 | 704×576 | √ | √ |
| | DS-6508HFI-SATA<br>DS-6516HFI-SATA | V1.0.1 build 130607 | 704×576 | √ | √ |
| | DS-6501HCI<br>DS-6502HCI<br>DS-6504HCI | V1.0.1 build 130607 | 704×576 | √ | √ |
| | DS-6501HCI-SATA<br>DS-6502HCI-SATA<br>DS-6504HCI-SATA | V1.0.1 build 130607 | 704×576 | √ | √ |
| | DS-6508HCI<br>DS-6508HCI-SATA | V1.0.1 build 130607 | 704×576 | √ | √ |
| | DS-6516HCI<br>DS-6516HCI-SATA | V1.0.1 build 130607 | 704×576 | √ | √ |
| | DS-6601HCI<br>DS-6602HCI<br>DS-6604HCI | V1.2.1 build 131202 | 704×576 | √ | √ |
| | DS-6601HFI<br>DS-6602HFI<br>DS-6604HFI | V1.2.1 build 131202 | 704×576 | √ | √ |
| HUNT | HLC_79AD | V1.0.40 | 1600×1200 | √ | × |
| Panasonic® | WV-SW559<br>(ONVIF compatibility) | Application:1.30<br>Image data:2.21 | 1920×1080 | √ | √ |
| | WV-SP306H<br>(ONVIF compatibility) | Application:1.34<br>Image data:1.06 | 1280×960 | √ | √ |

| IP Camera Manufacturer or Protocol | Model | Version | Max. Resolution | Sub-stream | Audio |
|---|---|---|---|---|---|
| Panasonic® | WV-SP336H | Application:1.06<br>Image data:1.06 | 1280×960 | √ | √ |
| PELCO ®<br>(ONVIF compatibility) | D5118 | 1.8.2-20120327-<br>2.9310-A1.7852 | 1280×960 | √ | × |
| | IXE20DN-AAXVUU2 | 1.8.2-20120327-<br>2.9081-A1.7852 | 1920×1080 | √ | × |
| | IX30DN-ACFZHB3 | 1.8.2-20120327-<br>2.9080-A1.7852 | 2048×1536 | √ | × |
| SAMSUNG<br>(ONVIF compatibility) | SNB-5000P | V3.10_130416 | 1280×1024 | √ | √ |
| SANYO® | VCC-HD2300P | 2.03-02(110318-00) | 1920×1080 | × | × |
| | VCC-HD2500P | 2.02-02(110208-00) | 1920×1080 | × | √ |
| | VCC-HD4600P | 2.03-02(110315-00) | 1920×1080 | × | √ |
| SONY® | SNC-CH220 | 1.50.00 | 1920×1080 | × | × |
| | SNC-RH124<br>(ONVIF compatibility) | 1.79.00 | 1280×720 | √ | √ |
| | SNC-EP580<br>(ONVIF compatibility) | 1.53.00 | 1920×1080 | √ | √ |
| | SNC-DH220T (Only ONVIF is supported) | 1.50.00 | 2048×1536 | × | × |
| Vivotek® | IP7133 | 0203a | 640×480 | × | × |
| | FD8134<br>(ONVIF compatibility) | 0107a | 1280×800 | × | × |
| | IP8161<br>(ONVIF compatibility) | 0104a | 1600×1200 | × | √ |
| | IP8331<br>(ONVIF compatibility) | 0102a | 640×480 | × | × |
| | IP8332<br>(ONVIF compatibility) | 0105b | 1280×800 | × | × |
| ZAVIO<br>(ONVIF compatibility) | D5110 | MG.1.6.03P8 | 1280×1024 | √ | × |
| | F3106 | M2.1.6.03P8 | 1280×1024 | √ | √ |
| | F3110 | M2.1.6.01 | 1280×720 | √ | √ |
| | F3206 | MG.1.6.02c045 | 1920×1080 | √ | √ |
| | F531E | LM.1.6.18P10 | 640×480 | √ | √ |